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Air Operations Against Iraq (1991 and 2003)

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1. General Background of the Two Air Campaigns

Considering the significant number of armed operations on Iraqi territory in the last decades, the object of the present study must be specified. My research will be limited to the most important armed conflicts in which Iraq has been involved, *i.e.* the so-called "first" (1990-1991) and "second" (2003) Gulf Wars. To put the two air campaigns into perspective, a brief background of these armed conflicts is in order.

As is well known, the "first" Gulf War developed with the aim of ending the illegal occupation of Kuwait by Iraqi troops. Following the approval of Security Council resolution 678 (1991), a vast coalition of States was established. Faced with Iraq's refusal to comply with Security Council requests, the military air campaign began on 17 January 1991. After several weeks of air operations, land operations were launched in February 1991. These combined efforts led to the rapid liberation of Kuwait and to the end of hostilities. During the "first" Gulf War not all of the participating States

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provided air support to the Coalition. Only 10 States[1] took part in the air warfare, which involved more than 72,000 combat missions, 32,000 of which were against military objectives stationed in Iraq.[2]

The air campaign connected with the "second" Gulf War began in March 2003, when a small coalition of States decided to launch an armed attack against Iraq which was accused of not having complied with a series of Security Council resolutions concerning disarmament. In this case, only four States participated in air operations against Iraq and more than 90 percent of the military aircraft used were American.[3] In this case air operations developed side by side with the advance on land and, compared to the "first" Gulf War, there was a significant decrease in the number of air combat missions (41,000).[4]

2. International humanitarian law applicable in the Iraqi air campaigns

After this brief sketch of the historical background, the importance of international humanitarian law in the actual conduct of these air campaigns must be determined.

As we know, specific international treaties containing humanitarian rules applicable to air warfare have never been drawn up[5] and the most recent conventions in this field do not pay sufficient attention to this question. However, even in the absence of *ad hoc* treaties, that air warfare is subject to international humanitarian law has never been questioned by States and it has even found explicit confirmation in important treaty provisions.[6] An

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[1] United States, United Kingdom, France, Italy, Canada, Kuwait, Saudi Arabia, Bahrain, United Arab Emirates, Qatar.

[2] Huge bombardments made it possible to achieve air supremacy in just 10 days. This advantage "…granted Coalition aircraft a safety and a freedom that permitted operations at high and medium altitudes over Iraq with virtual impunity" (Department of Defense, *Final Report to Congress, Conduct of the Persian Gulf War*, 1992, 180 - hereinafter *Report to Congress*).

[3] During the "second" Gulf War, 1801 airplanes were involved in air operations. The US used 1663 aircraft; the United Kingdom 113, Australia 22 and Canada only 3 for airlifts (see USCENTAF, *Operations Iraqi Freedom – By the Numbers*, 30 April 2003, at 6).

[4] *Ibidem*, at 7. During the "second" Gulf War as well, the Coalition achieved air supremacy with relative ease in less than two weeks (*ibidem*, at 15).

[5] An earlier attempt at codification was made with the 1923 Hague Rules on Air Warfare prepared by a Commission of Jurists. For the text, see A. Roberts /R. Guelf, *Documents on the Laws of War*, Oxford, 3rd ed., 2001, 141.

[6] See, in particular, Art. 49 of the First Additional Protocol which states that the section on "General Protection Against the Effects of Hostilities" of the Convention is also extended "...

organic legal framework is lacking, but the relevant *corpus iuris* can be deduced by transposing the general principles concerning the conduct of hostilities to this field or by applying the norms included in relevant international treaties to this method of warfare.[7] In particular, the most important provisions on this matter can be found in the First Additional Protocol to the four Geneva Conventions of 1949 adopted in 1977.[8]

Respect for international humanitarian law has been affirmed on several occasions by the States involved in the two Gulf air campaigns. However, considering the absence of a specific set of norms, it is important to define which rules have been considered as mandatory by participating States. First, it must be noted that participating States operated in a context of "legal asymmetry" as not all States taking part in hostilities had ratified the First Additional Protocol (e.g. the United States).[9] This does not appear to have represented a significant obstacle to the conduct of the two air campaigns, although in both conflicts some States refused to carry out bombardments which they felt did not conform to their legal standards.[10]

An examination of the relevant practice makes it possible to identify some basic principles which were considered mandatory and acted as a limit

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to any … air…warfare which may affect the civilian population, individual civilians or civilian objects on land".

[7] See N. Ronzitti, *Diritto internazionale dei conflitti armati*, Turin, 2001, at 258.

[8] Reprinted in 1125 UNTS, 3. In that Convention see, in particular, the rules on principle of proportionality, definition of military objective, precautionary measures, obligation to distinguish, etc.

[9] At the time of the "first" Gulf War only Italy, Bahrain, Canada, Kuwait, Saudi Arabia and United Arab Emirates were parties to the First Additional Protocol. The United States, the United Kingdom, France and Australia had signed the treaty but not ratified it. Iraq had not even signed it. Among States participating in the "second" Gulf War only the United Kingdom (since 1998) and Australia (since August 1991) had ratified the Convention. On the US position concerning the First Additional Protocol, see H. Gasser, *An Appeal for Ratification by the United States*, in (1987) *AJIL*, 910; A. D. Sofaer, *The United States Decision not to Ratify Protocol I to the Geneva Conventions on the Protection of War Victims*, in (1988) *AJIL*, 784.

[10] In particular, in some cases the United Kingdom refused to carry out bombardments requested by the United States. In relation to the "first" Gulf War, see the report by Air Vice-Marshall Bill Wratted to the British Defence Committee: "…The RAF refused at least twice to bomb targets given it by American commanders during the Gulf War because the risk of collateral damage…was too high…when we were experiencing collateral damage, such as it was, and some of the targets were in locations where, with any weapons system malfunction, severe collateral damage would have resulted inevitably, then there were one or two occasions that I choose not to go against those targets…" (see *House of Commons Defence Committee, Tenth Report, Preliminary Lessons of Operation Granby*, 1991, 38 - hereinafter *Preliminary Lessons of Operation Granby*). For similar problems during the "second" Gulf War, see *House of Commons Defence Committee*, *Third Report of Session 2003-04, Lesson of Iraq*, Vol. I, *Report*, 58-60 (hereinafter *Lesson of Iraq*).

on military actions during air operations, even by States not parties to the First Additional Protocol.

For example, the principle of distinction was deemed binding by all States involved in hostilities.[11] As concerns the "first" Gulf conflict, we can quote some passages from the *Report to Congress on the Conduct of the Persian Gulf War*, prepared by the US Defense Department, which recognize that "… the language of Article(s) 48 … is generally regarded as a codification of the customary practice of nations, and therefore binding on all".[12] Similar statements are included in official letters submitted to the United Nations Security Council by other States that participated in the 1991 armed conflict.[13] In the "second" Gulf War, the United States considered this basic principle as particularly relevant for the targeting process.[14] Participating States also found other specifications of the principle of distinction binding. For instance, prohibition of indiscriminate attacks (Art. 51.4-5 First Additional Protocol) was considered compulsory by the United

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[11] The obligation to distinguish is affirmed in Articles 48 and 51.2 of the First Additional Protocol. Obviously, Iraq did not comply with this rule when it indiscriminately launched SCUD missiles against Israel and Saudi Arabia.

[12] See Department of Defense, *Report to Congress on the Conduct of the Persian Gulf War – Appendix on the Role of the Law of War*, in (1992) *ILM*, 624-625 (hereinafter *Report to Congress, Appendix*).

[13] For the official letters of the United Kingdom, see UN Doc. S/22156 (28/1/1991) and UN Doc. S/22218 (13/2/1991). For similar documents issued by Saudi Arabia, see UN Doc. S/22350 (14/3/1991).

[14] See, for instance, the press conference of Maj. Gen. McChrystal concerning "*Coalition Targeting Procedures*" in which he asserted "…international law draws a clear distinction between combatants and civilians in any war. The principle that civilians are protected during operations lies at the earth of the international law of armed conflict. And it's that distinction that we believe is important" (see http://fcp.state.gov/19326pf.htm, 3/4/2003). In similar terms, see "*CENTCOM, Background Briefing on Targeting*", 5/3/2003, (http://www.defenselink.mil/news/Mar2003/t03052003_t305targ.html). These statements corroborate similar norms included in US military manuals. See, for example, *Air Force Pamphlet 110-31, International Law – The Conduct of Armed Conflict and Air Operations*, 1976, 5-7, at para. 5-3 lett. a (1)(a); *Air Force Pamphlet 14-210, USAF Intelligence Targeting Guide*, 1998, 147, at para. A 4.2.1.

States on numerous occasions during both the "first"[15] and the "second" Gulf War.[16]

Similarly, the importance of the principle of proportionality (Arts. 51.5 *b* and 57.2 *a* (iii)) has been widely recognised. During the armed conflict in 1991, the role of this principle was confirmed in the previously mentioned *Report to Congress*[17] and similar statements were expressed by the British military authorities.[18] In the same way, official statements by US authorities regarding the "second" Gulf War tend to corroborate the relevance of this principle in the conduct of hostilities,[19] confirming similar statements included in US military manuals.[20]

Moreover, other principles of international humanitarian law appear to have been important in the conduct of air operations against Iraq. In particular, participating States recognised the need to afford special

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[15] See *Report to Congress*, *Appendix, supra* note 12: "The Law of war with respect to targeting, collateral damage and collateral civilian casualties is derived from the principle of discrimination; that is, the necessity to distinguish between combatants, who may be attacked, and non-combatants, against whom an intentional attack may not be directed, and between legitimate military targets and civilian objects (621)…Central Command (CENTCOM) forces adhered to these fundamental law of war proscriptions in conducting military operations during operations Desert Storm through discriminating target selection and careful matching of available forces and weapons systems to select targets and Iraqi defences (622)…at no time were civilian areas as such attacked (624)".

[16] See the press conference of Maj. Gen. McChrystal, *supra* note 14: "…we have an unprecedented capability now with technology to achieve precision in our targeting. We have the ability to hit, in most cases, exactly what we try to hit, and scale the munitions appropriately to the task. We also believe that that capability comes with a responsibility. Because we can be more discriminating in the use of force, it gives us a responsibility to be more discriminating".

[17] See *Report to Congress*, *Appendix*, *supra* note 12, at 622: "An uncodified provision…is the principle of proportionality. It prohibits military action in which the negative effects (such as collateral civilian casualties) clearly outweigh the military gain…CENTCOM conducted its campaign with a focus on minimizing collateral civilian casualties and damage to civilian objects. Some targets were specifically avoided because the value of destruction of each target was outweighed by the potential risk to nearby civilians or, as in the case of certain archaeological and religious sites, to civilian objects".

[18] See the declarations of Ten. Gen. Sir Peter de la Billière in *Preliminary Lessons of Operation Granby*, *supra* note 10, at 87.

[19] See the press conference of Maj. Gen. McChrystal, *supra* note 14: "…the vetting process…eliminates a number of targets from the master list for all of the reasons that we discussed – the desire to prevent or minimize collateral damage and to limit or prevent entirely the potential for unintended loss of life…there are high collateral damage targets struck. There are some targets for which all of the mitigation that we do cannot completely mitigate the potential, and then it's a judgment call that weights the military necessity against the expected outcome".

[20] See, for example, *Air Force Pamphlet 14-210*, *supra* note 14, at 148, A 4.3.1.2; Judge Advocate General's Legal Center and School, *Operational Law Handbook*, 2004, 14-15.

protection to historical monuments and religious objects,[21] even though neither the United States nor the United Kingdom are parties to the 1954 Hague Convention.[22] Similarly, several official documents point out that the obligation to take precautions in attacks, exemplified in Art. 57 of the First Additional Protocol, was recognised as applicable in the conduct of the two air campaigns, as already indicated in domestic military manuals.[23] For instance, the obligation to fulfil this requirement determined the issue of orders to Coalition forces during the first armed conflict not to drop munitions in the absence of positive identification of assigned objectives.[24] Likewise, the obligation to adopt all feasible precautions in the choice of means and methods of attack with a view to avoiding or minimising collateral damage (Art. 57.2 *a* (ii)) appears to have been considered as generally binding by participating States. This could be seen in the use of

[21] Concerning the 1991 British air campaign, see the statements included in the official letters submitted to the Security Council: "British commanders have also been briefed on the location and significance of sites of religious and cultural importance in Iraq and operations will take account of this" (see UN Doc. S/22115, 21/1/1991 and UN Doc. S/22218, 13/2/1991). For the American position see *Report to Congress*, *Appendix*, *supra* note 12, at 626: "…In summary, cultural and civilian objects are protected from direct, intentional attack unless they are used for military purposes, such as shielding military objects from attack"; *Report to Congress*, *supra* note 2, at 100, in which it is indicated that CENTCOM target intelligence analysts produced a no-fire target list which included historical, archaeological and religious installations in Iraq and Kuwait. As regards American air operations during the "second" Gulf War see, for instance, the press conference of Maj. Gen. McChrystal, *supra* note 14, "…a mosque, could be a hospital, could be schools; it could be diplomatic facilities…those are all things that we take great care not to impact, or not to influence in the targeting process".

[22] Special protection for these objects is recognised in various US military manuals. See, for instance, *Air Force Pamphlet 14-210*, *supra* note 14, at 150, A.4.5.2; *Operational Law Handbook, supra* note 20, at 23.

[23] See *Air Force Pamphlet 110-31*, *supra* note 14, 5-9-11, at para. 5-3 (c); *Air Force Pamphlet 14-210*, *supra* note 14, 148-149, at para. A.4.3.

[24] See *Report to Congress*, *Appendix*, *supra* note 12, at 622: "Aircrews attacking targets in populated areas were directed not to expend their munitions if they lacked positive identification of their targets. When this occurred, aircrews dropped their bombs on alternate targets or returned to base with their weapons". Similar statements are present in official letters of the United Kingdom (UN Doc. S/22118) and Saudi Arabia (UN Doc. S/22259) to the Security Council. According to US data, during the "first" Gulf War, aircrews decided not to release munitions in about 25 percent of the missions (see the memorandum prepared by Parks on 10 December 1991 quoted in J. G. Humphries, *Operations Law and the Rules of Engagement in Operations Desert Shield and Desert Storm*, in Fall (1992) *Airpower Journal*, at 37, note 25). In occasion of the "second" Gulf War, Australian aircrews were obliged to suspend air attacks in the absence of effective visual identification of the objective (see Australian Ministry of Defence, *The War in Iraq. ADF Operations in the Middle East in 2003*, 2003, at 13).

precision-guided munitions, the special timing of attacks, etc.[25] On several occasions, in order to respond to the obligation of taking precautionary measures, the United States claimed to have issued advance warnings to the civilian population, although such statements appear to have been quite vague.[26]

Even though official documents regarding the two armed conflicts seem to indicate an overall acceptance of these basic principles of international humanitarian law by all States involved in armed operations against Iraq, there is some doubt about the effective legal framework that these States consider applicable to the conduct of air operations, especially in relation to the position of the United States. In fact, despite that some US military manuals – published at the time when the First Additional Protocol was drawn up – seem to paraphrase the rules included in the Treaty,[27] it has subsequently become evident that the United States has progressively adopted an autonomous interpretation of the fundamental principles set down in the Convention; so different, in some cases, from the concepts and reasoning of the rules of the Additional Protocol as to render them almost inoperative.

For instance, with respect to the principle of proportionality, it is well-known that the Additional Protocol classifies an attack as indiscriminate if the collateral damage caused by this action appears to be "excessive in relation to the concrete and direct military advantage anticipated" (Art. 51.5 *b*). From a critical analysis of the US military manuals, we can infer that the

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[25] See *Report to Congress*, *Appendix*, *supra* note 12, at 622 "…To the degree possible and consistent with allowable risk to aircraft and aircrews, aircraft and munitions were selected so that attacks on targets within populated areas would provide the greatest possible accuracy and the least risk to civilian objects and the civilian population…". As regards the 2003 air campaign, see the press conference of Maj. Gen. McChrystal, *supra* note 14: "We…look at each target in a way that we try to essentially engineer the best solution to it…one of the first is to start by employing smaller weapons…another way to do is to achieve or to use a different fuse…then we can talk about shifting aim points on a target…the next is to limit attack angles and azimuths…finally, we have the ability to limit or determine the time of attack…".

[26] On this duty, see Art. 51.2 of the First Additional Protocol. See, for instance, the press conference of Maj. Gen. McChrystal, *supra* note 14: "Another mitigation technique is to provide early warning…one of the ways we do this is we simply put out instructions to people that these or this target specifically, or these targets, are legitimate military targets and they will be struck, or they may be struck".

[27] See, in particular, the *Air Force Pamphlet 110-31*, *supra* note 14. See, for instance, charter 5 of the Pamphlet concerning "Aerial Bombardment". In this section (paras. 5-3, 5-4 and 5-5) a series of norms, which are identical to those which would have been included in section I, Part IV of the First Additional Protocol of 1977 ("General Protection Against the Effects of Hostilities"), are reproduced. It was obviously possible to insert these rules using the *travaux préparatoires* of the Diplomatic Conference which was established in 1974.

interpretation of these concepts is extremely flexible. For example, some of these documents state that

> …"Military advantage" is not restricted to tactical gains, but is linked to the full context of war strategy. Balancing between collateral damage to civilians objects and collateral civilian casualties may be done on a target-by-target basis, as frequently was done in the first (1991) and second (2003) Persian Gulf Wars, but also may be weighed in overall terms against campaign objectives.[28]

This interpretation of the concept of "military advantage" was used, for instance, during the "first" Gulf War.[29] It is evident that such an interpretation of the concept is not compatible with the indications provided by the Commentary on the First Additional Protocol where, on the contrary, the emphasis is on the expression "concrete and direct" in order to underline that "… the advantage concerned should be substantial and relatively close, and that advantages which are hardly perceptible and those which would only appear in the long term should be disregarded".[30] The American position could well provide the attacking State with an open mandate, as even bombardments which produce heavy losses among the civilian population could probably be legally justified by this interpretation. In fact, reference to concepts like "overall terms against campaign objectives" to identify a military advantage gained through bombardment, seems to use an event which is quite impossible to define, with the risk of excessively broadening the parameter of reference for an evaluation of the lawfulness of the military action. Such an approach is evidently in contrast both with the indications present in the Additional Protocol, where the term "attack" (*i.e.* single attack) is used as a parameter of reference, and with positions held by some Western States, which prefer to refer to the concept of "attack considered as a whole", which can be considered a finite event and not confused with the entire war.[31]

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[28] See, recently, *Operational Law Handbook*, *supra* note 20, 14-15.

[29] See *Report to Congress*, *Appendix*, *supra* note 12, at 622. On the principle of proportionality, it states: "…It prohibits military action in which the negative effects (such as collateral civilian casualties) clearly outweigh the military gain. This balancing may be done on a target-by target basis, as frequently was the case during Operation Desert Storm, but also may be weighed in overall terms against campaign objectives".

[30] The expression "concrete and direct military advantage anticipated" is used both in Art. 51.1 (5) and in Art. 57 (Precautions in attack). On their meaning, see Y. Sandoz et al., *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949*, Geneva, 1987, at 684, at para. 2209.

[31] See, for instance, the interpretative reservation on the term "military advantage to be expected" formulated by some States (e.g. the United Kingdom, Australia, Italy). According to such States this term should be "…intended to refer to the advantage anticipated from the attack considered as a whole and not only from isolated or particular parts of the attack". In such a case, even if the expressions contained in Art.51.1 are broadened, it is nevertheless

Secondly, even if ascertained that the United States seems to officially recognise the relevance of the principle of proportionality, such formal acceptance could appear meaningless in the absence of a clear definition of the concept of "military objective" (art. 52.2 First Additional Protocol), *i.e.* those objectives whose destruction, capture or neutralisation offers a "definite military advantage". Also, while the United States initially recognised the validity of the terms expressed in article 52.2,[32] it has gradually taken an autonomous position concerning the interpretation of the concept of "military advantage". In our opinion, that interpretation seems to have been proposed to introduce a legal standard that is manifestly more flexible than the indications provided by the Additional Protocol. A first example of this approach can be inferred from the provisions included in the 1989 US Navy manual, which specifies that objects can be qualified as military objectives when they "…effectively contribute to the enemy's war-fighting or war-sustaining capability".[33] This trend was confirmed in subsequent official documents, such as the *Report to Congress* on the "first" Gulf War (1992);[34] military manuals of US forces;[35] the Military

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possible to use clear parameters of reference. On the need to employ concrete parameters, see: Y. Dinstein, *Legitimate Military Objectives under the Current Jus in Bello*, in (2001) *IYHR*, at 6; M. Sassòli, *Legitimate Targets of Attacks under International Humanitarian Law*, Program on Humanitarian Policy and Conflict Research (Working Paper), 2003, at 3.

[32] See, for instance, *Air Force Pamphlet 110-31*, *supra* note 14, 5-8, at para. 5-3 (b)(1) which gives a definition of "military objective" identical to the one in Art. 52.2.

[33] See United States Department of the Navy, *Annotated Supplement to the Commander's Handbook on the Law of Naval Operations*, 1989, 8.1.1. Nevertheless, note 9 of that text specifies that "…this variation of the definition in Additional protocol I Article 52 (2) is not intended to alter its meaning and is accepted by the United States as declarative of the customary rule".

[34] See *Report to Congress*, *Appendix*, *supra* note 12, at 623: "When objects are used concurrently for civilian and military purposes, they are liable to attack if there is a military advantage to be gained in their attack. ("Military advantage" is not restricted to tactical gains, but is linked to the full context of a war strategy, in this instance, the execution of the Coalition war plan for the liberation of Kuwait)".

[35] See *Air Force Pamphlet 14-210*, *supra* note 14, at 12. Even if the text of Article 52.2 is reproduced in the Pamphlet it is nevertheless specified that "…The key factor is whether the object contributes to the enemy's war fighting or war sustaining capability"; *Operational Law Handbook*, *supra* note 20, 20-21: "…a military objective is not limited to military bases, forces or equipment, but includes other objects that contribute to an opposing state's ability to wage war…The connection of some objects to an enemy's war fighting or war-sustaining effort may be direct, indirect or even discrete…and not solely to its overt or present connection or use". We have to emphasise that in this document no reference is made to the customary value of Art.52.2; Joint Chief of Staff, *Joint Doctrine for Targeting*, 2002, at A-3.

Commission Instruction No.2 (2003);[36] and the Air Force Basic Doctrine (1997) which even states that

> …strategic attack objectives often include producing effects to demoralize the enemy's leadership, military forces, and population, thus affecting an adversary's capability to continue the conflict.[37]

It is clear that such an interpretation tends to render the obligation to distinguish pointless. In fact, if we presume that an enemy object may be identified as "military" on the assumption of its potential contribution to the enemy's capability to continue its war effort,[38] it is self-evident that this approach could overly broaden the range of enemy objects that can be subjected to armed attacks. It is sufficient to consider economic activities located in enemy territory, infrastructure networks, and so on. In our opinion, such an interpretation of the concept of "military advantage", developed to eliminate normative standards considered too limiting for armed actions, risks rendering the formal acceptance of the principle of distinction and proportionality affirmed on several occasions in official US documents meaningless.[39] Furthermore, attempts to promote an even broader interpretation of these legal concepts have been proposed in the most authoritative US Air Force legal journals.[40]

An American preference to conform to legal standards that appear to be more lax than the terms set down in the Additional Protocol and accepted by other States may also be deduced in relation to Article 52.3 of the First Additional Protocol, which refers to the presumption of the civilian character of an object normally dedicated to civilian purposes. The validity of this principle, for instance, was explicitly acknowledged in the military manual

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[36] Department of Defense, *Military Commission Instruction No.2 (Crimes and Elements)*, 30/4/2003.

[37] See *Air Force Doctrine Document 1*, *Air Force Basic Doctrine*, 1997.

[38] In literature, for instance, Blix is particularly critical of the possibility of using hypothetical and general concepts, like the conclusion of hostilities, in order to evaluate the military advantage anticipated (H. Blix, *Area bombardment: rules and reasons*, in (1978) *BYIL*, 54-55).

[39] On differences between the American position on Art. 52.2 and current interpretations of this norm see: M. N. Schmitt, *The Principle of Discrimination in 21st Century Warfare*, in (1999) *Yale Human Rights. & Development Law Journal*, at 149; R. Wolfrum, *The Attack of September 11, 2001, the Wars Against the Taliban and Iraq: Is There a Need to Reconsider International Law on the Recourse to Force and the Rules in Armed Conflict?*, in (2003) *MPYUNL*, 43-51; M. N. Schmitt, *Targeting and Humanitarian Law: Current Issues*, in (2004) *IYHR*, 60-74.

[40] See W. H. Parks, *Air War and the Law of War*, in (1990) *The Air Force Law Review*, 1; J. A. Warden, *The Enemy as a System*, in (1995) *Airpower Journal*, 40; C. J. Dunlap, *The End of Innocence: Rethinking Noncombatancy in the Post-Kosovo Era*, in (2000/3) *Strategic Review*, 9; J. M. Meyer, *Tearing Down the Façade: A Critical Look at the Current Law on Targeting the Will of the Enemy and Air Force Doctrine*, in (2001) *The Air Force Law Review*, 143.

published contemporaneously with the preparation of the Additional Protocols.[41] Even so, more recent American documents seem to deny the binding value of this principle. Such a refusal, for instance, was clearly expressed in relation to the "first" Gulf War.[42]

Therefore, although an analysis of official documents of the States participating in the two air operations against Iraq demonstrates a substantial acceptance of the basic principles of international humanitarian law, it is obvious that a concrete examination of the conduction of these operations is necessary in order to identify the role and influence of these rules in air warfare. In fact, only such an analysis can provide the elements needed to understand whether such rules lay down concrete limits to air bombardments or if, on the basis of different interpretations of the basic concepts inserted in these provisions, we can identify some armed actions as being of questionable lawfulness.

3. Target Selection

In order to compare the legality of the two air campaigns against Iraq, different categories of targets subjected to bombardment by the Coalition air forces during air operations in 1991 and 2003 must be identified. Such analysis makes it possible to evaluate the degree of fulfilment by the Coalition air forces of the basic principle of distinction, which implies that only military objectives may be attacked. For this purpose, we will essentially use official documents released by participating States,[43]

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[41] See *Air Force Pamphlet 110-31*, *supra* note 14, 5-7, at para. 5-3 a (1) (b).

[42] After quoting the text of Art. 52.3, the *Report to Congress*, *Appendix*, *supra* note 12, 627, explicated that "…This language, which is not a codification of the customary practice of nations, causes several things to occur that are contrary to the traditional law of war. It shifts the burden for determining the precise use of an object from the party controlling that object…to the party lacking such control and facts, *i.e.*, from defender to attacker".

[43] For the 1991 air campaign, see in particular, *Report to Congress*, *supra* note 2, (USA); *Report to Congress*, *Appendix*, *supra* note 12 (USA); *Preliminary Lessons of Operation Granby*, *supra* note 10 (UK); Cohen et al., *Gulf War Air Power Survey* (hereinafter *GWAPS*), Washington, 1993, 5 vols. (a group of independent experts was commissioned by the US Air Force to prepare the *GWAPS* in 1991 in provide an objective evaluation of the air campaign. An on-line version of the *GWAPS* is available at www.fas.prg/sgp/library. Number of pages quoted in this paper are those used in this on-line version). For the 2003 air campaign, see USCENTAF, *Operations Iraqi Freedom*, *supra* note 3 (USA); *Lesson of Iraq*, *supra* note 10 (UK); *The War in Iraq*, *supra* note 10, (Australia); Briefings at CENTCOM (USA) – www.centcom.mil/CENTCOMNews/Transcripts.

supplementing this information with the most important documents issued by NGOs.[44]

3.1 Attacks against "pure" military targets

The attitude of participating States towards the bombardment of objects and personnel which could easily be identified as "military" does not appear to have raised particular questions. Regarding air operations in 1991, indications concerning these objectives can be found in the target list provided by participating States, which identified them as

> … Iraqi Army Units including Republican Guard Forces in the KTO…Scud Missiles, Launchers, and Production and Storage Facilities…Strategic Integrated Air Defence System…Air Forces and Airfields…Naval Forces and Port Facilities …

Air attacks against such targets appear to be legitimate in principle as these categories without doubt represent strictly military targets.

Some doubts could be raised in relation to the lack of any specification concerning the nature of airfields and ports targeted by air attacks, as the vague expression used in the *Report to Congress* ("airfields", "port facilities") seems to show a preference to classify such structures as military *ipso facto*, without providing any distinction between structures employed for military or civilian purposes. Even though some sources identify airports and ports as military objectives *tout court,*[45] it is known that according to part of the doctrine this logical process, aimed at the creation of abstract categories of "military objectives", does not comply with the aims of Art. 52.2.[46] Instead, following the legal reasoning of that provision, the legality of military actions ought to be evaluated case by case, based on the prevailing circumstances at the time. Unfortunately, the information available on these

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[44] See the reports published by Human Rights Watch in 1991 (*Needless Deaths in the Gulf War. Civilian Casualties During the Air Campaign and Violations of the Laws of War*, 1991 – *HRW Report 1991*) and 2003 (*Off Targets: The Conduct of the War and Civilian Casualties in Iraq*, 2003 – *HRW Report 2003*). Such reports can be found at www.hrw.org.

[45] This position seems to have been endorsed by the 1954 Hague Convention according to which "aerodrome" and "port or railway station of relative importance" are considered examples of potential military objectives (Art. 8). In that article there are no references to a possible distinction between structures used for military or for civilian purposes.

[46] See F. Kalshoven, *Reaffirmation and Development of International Humanitarian Law Applicable in Armed Conflicts: The Diplomatic Conference, Geneva 1974 – 1977*, in (1978) *NYIL*, at 111.

bombardments is quite vague and does not provide explicit indications about the nature of the airports and ports targeted.[47]

Nevertheless, during the 2003 air campaign, some air attacks were carried out on Baghdad international airport, with the specific aim of preventing the Iraqi leadership from escaping.[48] If one does not accept that such structures are military objectives *per se*, the damage to Baghdad's civilian airport by aerial bombing raises some doubts. First of all, attacks against this installation can hardly be justified on the assumption of its potential value for Iraqi military aviation: as it was impossible for this force to use military airfields,[49] it was quite unrealistic to assume that it would use Baghdad's international airport. Secondly, an attack against civilian airports to prevent the escape of the enemy leadership does not appear, at first sight, to be justifiable by the acquisition of a particular "military advantage". The leadership's departure would, on the contrary, probably have favoured the allied aim of weakening the enemy's command and control of government and therefore some doubts regarding these actions may be expressed.

Finally, during the 1991 armed conflict, there was some criticism of the attacks by the allied Coalition on Iraqi troops retreating from Kuwait.[50] We do not agree with those who objected to these attacks and their claims that military troops who are retreating in a disorganised way to their home territory have lost their military value. According to them, there was no military necessity for conducting these air attacks.[51] On the contrary, in my opinion, retreating military troops still ought to be considered military targets. Only surrender can provide immunity from attacks, as the risk otherwise persists that disbanded troops can rejoin their units and continue

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[47] Concerning ports, the *Reports to Congress* only affirms that: "Coalitions planners targeted…port facilities…to prevent interference with Coalition operations and to reduce the threat to friendly ports and logistical systems in the Persian Gulf" (*supra* note 2, at 99).

[48] See the press conference of Gen. Brooks the day of land conquest of Baghdad international airport (4/4/2003). With reference to this military operation he specified that: "We made efforts more than a week ago to ensure that that could not be used for the takeoff of any regime leaders that might want to escape the country, so we rendered the runway unusable for air operations…We rendered the airport unusable for normal air operations".

[49] The Iraqi Air Forces were in fact unable to respond to the Coalition air operation, demonstrated by the fact that no Iraqi military airplane took part in hostilities. On this aspect, see the briefing by Maj. Gen. Renuart at CENTCOM: "…with respect to Iraqi air force, they've not flown an airplane. They've not had the capability to fly an airplane. They've not shown any inclination to fly an airplane" (22/2/2003).

[50] On these actions see *Report to Congress*, *Appendix*, *supra* note 12, 642; F. J. Hampson, *Means and methods of warfare in the conflict in the Gulf*, in P. Rowe (ed.), *The Gulf War 1990-91 in International and English Law*, London/New York, 1993, at 107.

[51] See H. Meyrowitz, *La guerre du Golfe et le droit des conflits armés*, in (1992) *RGDIP*, at 582; E. David, *Principes de droit des conflits armés*, Bruxelles, 2002, 272-273.

hostilities.[52] Moreover, in this specific case, the method of retreat, carried out at night and in an organised group in order to repel possible land attacks by Coalitions forces, indicates that the action was a tactical retreat.

Targeting policy concerning these objectives does not appear to have changed in 2003. Available information indicates that the majority of aerial attacks made by the Coalition were carried out against Iraqi military forces, the Republican Guard, etc.[53]

3.2 Attacks against government and political facilities

Another category which was subjected to extensive bombardment in both conflicts is government and political facilities. For instance, during the "first" Gulf War, "Leadership Command Facilities" were included in the target list as their neutralisation was considered necessary "… to fragment and disrupt Iraqi political and military leadership". According to the Report, such "… targets included national-level political and military headquarters and command posts…"[54]. Also during the 2003 air campaign several bombardments were carried out against command and control facilities, Ministries, central and local headquarters of intelligence and secret services and facilities of the *Ba'ath* party.

Concerning the lawfulness of these attacks, the bombardment of command and control facilities does not pose any question as they are clearly military objectives. On the other hand, actions against Ministries may raise some doubts. It is well-known that not all Ministries can be subjected to armed attack. On the contrary, only Ministries which are considered to have a strict link with military operations can be considered legitimate military objectives.[55] Therefore, while Coalition bombardments of the

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[52] For instance, reference can be made to the reconstitution of the Italian army after the 1917 defeat at Caporetto. On the lawfulness of these attacks see: P. Barber, *Scuds, Shelters and Retreating Soldiers: The Laws of Aerial Bombardment in the Gulf War*, in (1993) *Alberta Law Review*, at 690; F. J. Hampson, *Proportionality and Necessity in the Gulf Conflict*, in (1992) *ASIL Proceedings*, 53-54; Y. Dinstein, *Legitimate Military Objectives*, *supra* note 31, at 15.

[53] See for instance the briefing on 23 March 2003 "…air attacks concentrated on the destruction of Republican Guard forces outside Baghdad".

[54] See *Report to Congress*, *supra* note 2 at 95.

[55] See Y. Dinstein, *Legitimate Military Objectives*, *supra* note 31, at 19, "…Government offices can be considered a legitimate target for attack only when used in pursuance or support of military functions". Also see the 1956 ICRC *Draft Rules for the Limitation of the Dangers incurred by the Civilian Population in Time of War*, according to which military objectives are "..War Ministries (e.g. Ministries of Army, Navy, Air Force, National Defence, Supply) and other organs for the direction and administration of military operations" (in Y. Sandoz et al, *Commentary*, *supra* note 30, at 632, note 3).

Ministries of Industry, Military Industrialisation and Planning[56] can be qualified as legitimate attacks, the same cannot be said for attacks in 1991 on the Iraqi Ministry of Justice[57] and the Iraqi Central Bank.[58] Finally, the 2003 attacks against the Ministry of Information will be assessed in a subsequent section.[59]

As for the attacks on intelligence and secret service facilities located in Iraq, an analysis of official documents demonstrates that these were carried out on the assumption that such facilities were used for the regime's military activities.[60] Such statements cannot be criticised as it is self-evident that intelligence activities are relevant for the conduct of combat operations. Moreover, during the "second" Gulf War there are several pieces of information regarding the employment of members of the Iraqi security services as commanders of paramilitary groups involved in resistance acts against the Coalition's advance.[61] Therefore, the link which existed between these subjects and the Iraqi military capacities demonstrates the lawfulness

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[56] For references concerning attacks against Ministry of Industry, Ministry of Military Industrialisation in 1991 see *Report to Congress*, *supra* note 2, at 127; on attacks against the Ministry of Planning in 1991 see *HRW Report* 1991, *supra* note 44. On attacks against the Ministry of Planning during the "second" Gulf War see *HRW Report*, 2003, *supra* note 44.

[57] See C. Greenwood, *Customary International Law and the First Geneva Protocol of 1977 in the Gulf Conflict*, in P. Rowe (ed.), *The Gulf War*, *supra* note 50, at note 52. Specific information on the reason why Coalition forces decided to attack this Ministry cannot be found. Therefore, it is not possible to determine whether the action was carried out on the basis of misunderstood intelligence information or if there was an intent to consider said Ministry useful to enemy war efforts.

[58] See *Human Rights Watch Report 1991*, *supra* note 44. It is obvious that such an institution cannot be classified as a military objective unless the activities carried out by the Central Bank are considered useful for the enemy's "*war sustaining effort*". This interpretation does not, however, appear consonant with principles of international humanitarian law.

[59] See *HRW Report 2003*, *supra* note 44. In this case, the Coalition's aim was to destroy technologies existing in that building which were presumed to be used for military communications.

[60] On attacks against intelligence service facilities in 1991 see *Report to Congress*, *supra* note 2, at 127, "…air forces continued to target…several secret police and intelligence headquarters buildings in Baghdad". On similar attacks in 2003, see for instance the press conference of Gen. Franks (22/3/2003) in which he affirms that Coalition bombardments were directed against "…a complex for the special security organization, well known as the enforcement arm of the regime…" and "…The Iraqi intelligence service – the arm that ties to terrorism throughout the world and conducts intelligence operations abroad…". For other attacks, see the press conferences on 26 March 2003 and on 31 March 2003.

[61] On such events see, for instance, *HRW Report 2003*, *supra* note 44, "…The Directorate of General Security (DGS), the Iraqi security organization responsible for monitoring political dissidents, was a fixture throughout Iraq. During the war, DGS was responsible for coordinating local militias…". Similarly, T. Garden, *Iraq: The Military Campaign*, in (2003) *Int. Affairs*, at 712.

of aerial attacks against the facilities even in the absence of a formal classification of security services as members of the Iraqi army.[62]

In a similar way, bombardments against *Ba'ath* facilities were justified by the fact that the dictatorial government structure of Iraq implied an indissoluble link between the State's official party and the government.[63] As we know, a similar line of reasoning was used in 1999 to justify air bombardments of Socialist Party facilities in Yugoslavia. However, the validity of this approach may be questionable. It is generally assumed that enemy civilian political leadership should be immune from attacks and enjoy the protection afforded to the civilian population by international humanitarian law.[64] This conclusion may be drawn, for instance, from an analysis of Art. 51.3 of the First Additional Protocol which states that "*civilian*" status is excluded only when the subject in question "takes a direct part in hostilities", *i.e.* participates in "… acts of war which by their nature or purpose are likely to cause actual harm to personnel and equipment of the enemy armed forces" with a peremptory exclusion of cases in which they simply participate "… in the war effort".[65]

Although *Ba'ath* was the official party of the Iraqi regime and its most important leaders usually appeared in public and on television in uniform, as they were both Party members and officers of the Iraqi armed forces, the information available did not make it possible to identify all members of that party as members of the Iraqi armed forces. There was no information about their formal rank in national military structures. Therefore, neither *Ba'ath* facilities nor its members can be qualified as military targets *ipso facto*. In order to evaluate the lawfulness of air bombardments against such buildings, the concrete role of *Ba'ath* facilities and its members in Iraqi military

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[62] On the legality of attacks against police members or other agents employed in "law enforcement" activities in the event in which they take a direct part in hostilities see P. Rowe, *Kosovo 1999: The Air Campaign. Have the Provisions of Additional Protocol I Withstood the Test?*, in (2000) *IRRC*, 150-151.

[63] Concerning actions against *Ba'ath* facilities see, for example, some briefings at CENTCOM: "…Our coalition Special Operations Forces continue to set conditions for our conventional forces by calling in close air support on military targets, including last night the destruction of the Baath Party headquarters in As Samawa" (25/3/2003); "…attack against a *Ba'ath* Party assembly, northeast of Basra, yesterday evening. It had about 200 members of the Ba'ath Party in attendance" (29/3/2003).

[64] For instance, according to Dinstein, attacks against enemy political leadership can only be admitted if these subjects serve in the armed forces or are present in installations or Government offices constituting military objectives (Y. Dinstein, *Legitimate Military Objectives*, *supra* note 31, 19-20). Particularly critical of attacks against *Ba'ath* members are B. Dougherty/ N. Quenivet, *Has the Armed Conflict in Iraq Shown once more the Growing Dissension Regarding the Definition of a Legitimate Target? What and Who Can be Lawfully Targeted?*, in (2003) *Humanitäres Völkerrecht*, at 195.

[65] See Y. Sandoz et al., *Commentary*, *supra* note 30, at para. 1944.

activities should be investigated. Such a role could probably be demonstrated for some of the more important buildings[66] but, in our view, the simplistic classification of all *Ba'ath* facilities as military objectives, which led to subsequent heavy bombardment of those structures, can be disputed. In order to reach such a conclusion, the effective transformation and use of *Ba'ath* facilities for military purposes rather than just exercise of general support or propaganda activities would have to be demonstrated.[67]

3.3 Attacks against telecommunications networks and radio and television facilities

The Iraqi telecommunications network was the target of numerous aerial bombardments during both armed conflicts. For instance, the 1991 target list specified that in order to reduce the capabilities of the Iraqi C^3 (command, control, communications) network "… Coalition bombed microwave relay towers, telephone exchanges, switching rooms, fiber optic nodes…".[68] Similarly, in 2003, several actions were conducted against such targets.[69]

Telecommunications networks can be considered "dual use" objects: even if they are usually used for civilian purposes, they can easily be employed to facilitate military communications. In all countries, even the United States,[70] it is unusual for military communications to be based exclusively on a separate military system. This was also the state of affairs in Iraq since, according to US documents, more than half of Iraqi military communications were carried out through the civilian network.[71] On the basis of this data, we can assume that the classification of the Iraqi

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[66] These buildings could have been used as alternative command and control centres instead of Government buildings subjected to attacks. But no official information indicates a similar use.

[67] Moreover, an analysis of land operations did not indicate that the Coalition's armed forces considered *Ba'ath* members as combatants, subject to imprisonment as prisoners of war. Therefore, it is not easy to understand why the Coalition decided during air operations systematically to attack *Ba'ath* facilities and the members located inside them, causing significant losses.

[68] *Report to Congress*, *supra* note 2, at 96.

[69] *HRW Report 2003*, *supra* note 44.

[70] According to some data, more than 90 percent of US armed forces communications are made using civilian communication networks (see J. T. Correll, *Warfare in the Information Age*, in December (1996) *Air Force Magazine*, at 3).

[71] See *Report to Congress*, *supra* note 2, at 151: "…In Iraq, the civil telecommunications system was designed to serve the regime – it was an integral part of military communications. For example, approximately 60 percent of military landline communications passed through the civil telephone system. Degrading the system appears to have had an immediate effect on the ability to command military forces and secret police".

telecommunication system as a military objective can be accepted as correct. This conclusion conforms to the opinions expressed by several authors[72] and to recent practice regarding air operations in Yugoslavia and Afghanistan, where attacking States decided to carry out extensive bombardments of these objectives.

A specific assessment has to be made for bombardments of radio and television facilities. It is well known that the legality of such attacks was specifically questioned in relation to *Allied Force* and *Enduring Freedom* operations. In particular, several official declarations issued by participating States were criticised for an apparent intention to damage enemy propaganda machinery through these bombardments.[73]

Iraqi radio and TV facilities were subjected to air attacks during both armed conflicts and a final evaluation of such attacks is largely based on the classification of such targets as military objectives. As is known, such a classification is hypothesised, for instance, in the 1954 Hague Convention and in the 1956 ICRC Draft Rules.[74] Moreover, during the review of NATO air raids against Yugoslavian broadcast facilities, the committee established by the ICTY Prosecutor admitted the lawfulness of such bombardments based on the utilisation of the apparatus for military communications, even if it was stressed that other reasons indicated by NATO for justifying such attacks (*i.e.* the intention to disrupt governmental propaganda) could not be considered as in line with standards of international humanitarian law.[75]

In my opinion, comparing the two air campaigns, the most relevant aspect to be emphasised is the change in the reasons expressed by the attacking States to justify such actions. In fact, during the 1991 air campaign participating States gave two reasons for the decision to attack these facilities. On the one hand, it was stressed that radio and TV facilities can be used for military communications and therefore their destruction can provide

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[72] See, for instance, C. Greenwood, *Customary International Law*, *supra* note 57, at 73; S. Oeter, *Methods and Means of Combat*, in D. Fleck (ed.), *The Handbook of Humanitarian Law in Armed Conflicts*, Oxford, 1995, 160-161.

[73] On these bombardments, see G. H. Aldrich, *Yugoslavia's Television Studios as Military Objectives*, in (1999) *Int. Law Forum*, 149; W. J. Fenrick, *Targeting and Proportionality during the NATO Bombing Campaign against Yugoslavia,* in (2001) *EJIL*, 495-497; in this book M. Mancini, *Air Operations against the Federal Republic of Yugoslavia (1999)*; R. Cryer, *The Fine Art of Friendship: Jus in Bello in Afghanistan*, in (2002) *JCSL*, 55-56; in this book C. Ponti, *Air Operations against Afghanistan (2001-2002).*

[74] See Article 8 of the 1954 Hague Convention in which it is indicated that a "broadcasting station" could be considered a military objective. Moreover see the 1956 ICRC *Draft Rules*, *supra* note 55, according to which "…(7) The installations of broadcasting and television stations…" should be considered military objectives.

[75] See the *Final Report to the Prosecutor by the Committee Established to Review the NATO Bombing Campaign against the Federal Republic of Yugoslavia*, in (2000) 39 *ILM*, 1257, paras. 71-78.

an effective military advantage.[76] However, on the other hand, according to the American *Report to Congress*,

> …The Saddam Hussein regime also controlled TV and radio and used them as the principal media for Iraqi propaganda. Thus, these installations also were struck…Internal radio and television systems were also attacked. The Iraqis had a reduced capability to broadcast outside the country and could broadcast only sporadically inside the country.[77]

This statement obviously raises several questions. According to the most eminent doctrine, the nature of the advantage obtainable by an armed attack can only be identified as a "military" advantage. Secondary purposes leading to the decision to attack are not admissible and it is explicitly forbidden to try to demoralise the enemy population through military actions.[78] Therefore, the explicit inclusion of the will to diminish enemy propaganda capabilities among benefits obtainable through such bombardments does not appear to comply with standards of international humanitarian law.

On the contrary, during the "second" Gulf War we can see that US officials were more prudent in indicating the reasons behind the Air Force bombardment of Iraqi radio and television stations. In particular, several official declarations emphasise that these objectives were subjected to attacks only as they were part of the Iraqi military communication network.[79]

In the end, in order to assess the Coalition's attacks in 1991 and 2003, reliable information on the real use of the Iraqi radio and TV stations for military purposes is required, as other possible reasons to identify Iraqi TV facilities as military objectives, such as their utilisation to incite violence and war crimes, do not appear to be applicable in this case[80]. Unfortunately,

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[76] See *Report to Congress*, *supra* note 2, at 99 "…Civil TV and radio facilities could be used easily for C^3 backup for military purposes".

77 See *Report to Congress*, *supra* note 2, at 99 and 152.

[78] See the clear comments on the term "military advantage" used in Articles 51, 52 and 57 of the First Additional Protocol (Y. Sandoz et al., *Commentary*, *supra* note 30, at para. 2218).

[79] See the press conference of Gen. Brooks: "…The second set that I'll show you today is of a television and communications facility that was used for dual purposes by the regime - on one hand, to broadcast television; on the other hand, to use as a node for communicating to different parts of the regime. And our intended effect in this case was to severe the links to the outside for the regime…The TV station that you saw attacked in the images…broadcast television. Propaganda is not our concern. It's the command-and-control aspects that run through the same type of station, that node, that caused us to attack it" (27/3/2003); "…In terms of the methods we use to disrupt command and control, there are a number of methods, and those are ongoing. It's not about broadcast. It's about command and control" (28/3/2003).

[80] On that possibility see *Final Report*, *supra* note 75, at para 47: "If the media is used to incite crimes, as in Rwanda, then is a legitimate target. If it is merely disseminating propaganda to generate support for the war effort, it is not a legitimate target". Even if it is correct to underline that Iraq violated several obligations laid down in the Third Geneva Convention of 1949, through TV exposure of prisoners of war during the "first" Gulf War, it

consistent information on such use has never been provided by the military authorities involved in the air campaigns.

3.4 Attacks against the Iraqi electricity network

Another objective of the Coalition air operations in both conflicts was the Iraqi electricity network. This infrastructure can be qualified as a "dual use", having both military and civilian applications and therefore the lawfulness of attacks against it is subject to scrutiny. Obviously there are no doubts about the legality of actions against electricity networks which are exclusively designed for military uses. However, more doubts arise about attacking a national electricity grid which is used contemporaneously for military and civilian services as was the case with the Iraqi electricity system, which can be characterised as an integrated network used for both purposes. According to the documentation provided by the Coalition after the "first" Gulf War, such infrastructure contributed in a direct manner to Iraqi War efforts and therefore

> …Disrupting the electricity supply to key Iraqi facilities degraded a wide variety of crucial capabilities, from the radar sites…to the refrigeration used to preserve biological weapons (BW), to nuclear weapons production facilities. To do this effectively required the disruption of virtually the entire Iraqi grid, to prevent the returning of power around damaged nodes.[81]

This statement may be held as acceptable since it is self-evident that defensive and offensive enemy capabilities are reduced when the State cannot rely on a working electricity network. Therefore, in the absence of a separate military electricity grid, the possibility of attacking a national integrated electricity network has to be recognised.[82] However, the main

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is difficult to assume that such violations were of sufficient gravity to determine *per se* the classification of the Iraqi TV system as a military objective, without further demonstration of its use for military communications.

[81] See *Report to Congress*, *supra* note 2, at 148. A similar approach was expressed by British military authorities in 1991. See for instance the statements submitted by Ten. Gen. Peter de la Billière, Commander of British Forces in the Middle East: "The strategic air campaign was designed to destroy the Iraqi capability supporting his forces in the field and delivering chemical weapons and generally giving aid and succour to his military machine. An important aspect of this war was, of course, to destroy his ability to produce power, which, in turn, supported a large area of strategic military support. In my view, I think that to take out the power stations was essential" (see *Preliminary Lessons of Operation Granby*, *supra* note 10, at 24).

[82] The inclusion of integrated electricity grids among military objectives is generally admitted by legal literature. See for instance C. Greenwood, *Customary International Law*, *supra* note 57, 73-74.

criticism voiced against the 1991 air raids regarded the methods of bombardment. Systematic attacks against such objectives, which caused severe collateral damage for the Iraqi civilian population, merit a separate analysis in subsequent sections.

3.5 Attacks against infrastructure

Iraq's infrastructure was another target of the Coalition's military bombardments in 1991 and 2003: it was explicitly included in the 1991 target list[83] and action against it was so intensive that at the end of the conflict 75 percent of bridges between Iraq and Kuwait had been destroyed or seriously damaged.[84] In contrast, bombardments against such infrastructure were greatly reduced during the "second" Gulf War. Such a change in the targeting policy can be explained, however, not by a different evaluation of the legal status of such "dual use" objects, but by specific political limitations imposed on military authorities. Considering the pre-planned occupation of Iraq at the end of hostilities by the Coalition's armed forces, political authorities wanted to preserve Iraq's infrastructure in order to facilitate post-conflict rebuilding.[85]

The legal status of infrastructure is not clearly defined by international humanitarian law and doctrine is divided on the subject. Some authors assume that these objects can be considered as military objectives *tout court,*[86] while others argue the need to demonstrate particular and additional conditions in order to legitimate such attacks. For instance, reference is usually made to the effective use of bridges for military purposes, the

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[83] See *Report to Congress*, *supra* note 2, at 99: "…most major railroad and highway bridges in Iraq served routes that ran between Baghdad and Al-Basrah. Iraqi forces in the KTO were almost totally dependent for their logistical support on the lines of communications that crossed these bridges, making them lucrative targets".

[84] *Ibidem*, at 158.

[85] See information provided in J. K. Carberry/ M. S. Holcomb, *Target Selection at CFLCC: A Lawyer's Perspective*, in May-June (2003) *Field Artillery*, at 40: "Central Command's (CENTCOM's) intent for OIF was to rapidly defeat the enemy…while preserving critical infrastructure to facilitate the post-conflict rebuilding of Iraq. To accomplish this, CENTCOM limited the authority of subordinate commanders to strike infrastructure, economic objects and lines of communication. These constraints were to ensure the CFLCC (Coalition Force Land Component Command) and Coalition Force Air Component Command (CFACC) plans were synchronized and complementary and to minimize damage" (Col. Carberry was CFLCC "Chief of International and Operational Law" during operation *Iraqi Freedom*).

[86] See Y. Dinstein, *Legitimate Military Objectives*, *supra* note 31, 12-13.

primary importance of the roads to the bridges, the location of the bridge in proximity to the theatre of operations, etc.[87]

In the 1991 air campaign, it can easily be maintained that bridges located in South Iraq, *i.e.* close to the theatre of operations, could be classified as military objectives, as their importance for military operations was self-evident. In this case, destruction of these infrastructure objects provided a concrete military advantage for the Coalition in view of subsequent land operations (*i.e.* interruption of logistical support to Iraqi troops in Kuwait, etc.).[88] Similarly, attacks on bridges located in Baghdad can probably be qualified as legitimate if we assume as correct the Coalition's information concerning the presence of fibre-optic links inside the bridges used for military communications between central authorities and troops located in the Southern region.[89]

Nevertheless, apart from the possible correct classification of the military character of such bridges by the Coalition's armed forces, the most questionable aspects of these actions are in relation to the way in which the 1991 bombardments were actually carried out and we will therefore focus on this issue in subsequent sections.

3.6 Time-sensitive targets and attacks against installations containing dangerous forces

During the 2003 armed conflict, under the term "time-sensitive targets", the Coalition included specific bombardments against emerging targets which were usually identified by the pilot or determined by the central command

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[87] See, for instance: F. J. Hampson, *Proportionality*, *supra* note 52, 48-49; P. Benvenuti, *The ICTY Prosecutor and the Review of the NATO Bombing Campaign against the Federal Republic of Yugoslavia,* in (2001) *EJIL,* 515-516; M. Bothe, *The Protection of the Civilian Population and NATO Bombing on Yugoslavia: Comments on a Report to the Prosecutor of the ICTY,* in (2001) *EJIL*, at 534. Also the 1956 ICRC *Draft Rules*, *supra* note 55, seems to sustain a similar approach as "…lines and means of communication (railway lines, roads, bridges, tunnels and canals) which are of fundamental military importance" are included among "…categories…considered to be of generally recognized military importance".

[88] Some authors are particularly critical of certain attacks against "…bridges in north and central Iraq long after traffic to the Kuwait theatre of operations had been interdicted" (see R. Normand/ C. A. Jochnick, *The Legitimation of Violence: A Critical Analysis of the Gulf War*, in (1994) *Harvard ILJ*, at 406). However we do not have information concerning such attacks nor do these authors provide additional information.

[89] See, *Report to Congress*, *Appendix*, *supra* note 12, 623-624: "Baghdad bridges crossing the Euphrates River contained the multiple fibre-optic links that provided Saddam Hussein communications to his southern group of forces. Attack of these bridges severed those secure communication links, while restricting movement of Iraqi military forces and deployment of CW and BW warfare capabilities".

while the Coalition aircraft was flying over Iraq. In particular this category comprised attacks against the Iraqi leadership, weapons of mass destruction, terrorist groups and moving targets such as Iraqi troops on the field.[90]

Concerning the legal status of these objectives, the lawfulness of strikes against the Iraqi leadership has to be ascertained first. Although some members of the US administration raised doubts on this subject during the 1991 conflict,[91] the lawfulness of attacks against Saddam Hussein is unquestionable. His classification as a legitimate military target is based on his function as, in addition to President of the Republic, high commander of the Iraqi armed forces. Therefore, during both conflicts attempts were made to eliminate him. In contrast, the generic term "leadership" employed in 2003 by the United States to classify several attacks by the Coalition against members of the Iraqi administration raises some doubts. In fact, it should be pointed out that members of the enemy leadership can only be attacked when such individuals can be classified as legitimate military objectives. For instance, this was the case for those leaders who were also members of the armed forces or who took "a direct part in hostilities", exercising important functions for the activities of the Iraqi armed forces.[92] In order to assess such actions more effectively, extra information is required concerning the identity and functions of the individuals subjected to these attacks. As such information is lacking, doubts similar to those raised about the attacks on the *Ba'ath* leadership and facilities can be advanced.

As for other targets included in the term "time-sensitive targets", the classification of Iraqi troops in the field as legitimate military objectives is unquestionable, while a similar classification for terrorist groups is more

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[90] According to information provided by USCENTAF "…Time-sensitive Targets (TST): Due to the fleeting nature of some targets and serious consequences of Weapons of Mass Destruction (WMD) use, the CFACC and Commander, USCENTCOM, developed a special capability to Find, Track, Target, Engage and Assess these very important targets. Three types of targets were defined as TSTs: Leadership, WMD and Terrorists. In addition to the narrow definition of TST targets, the CFACC also recognized some highly mobile and otherwise important targets could be attacked using the same tools. These were dynamic targets, and were prosecuted using re-rolled airborne aircraft" (see USCENTAF, *Operations Iraqi Freedom*, *supra* note 3, at 9).

[91] See *GWAPS*, *supra* note 43, Vol. II, 130. Such uncertainty was caused by domestic legislation (Executive Order 12333 - 4/12/1981) which forbids US government officials to kill foreign political leaders. However such a prohibition does not apply when such a subject can be classified as a legitimate military objective. See: W. H. Parks, *Memorandum of Law: Executive Order 12333 and Assassination*, in *The Army Lawyer*, 4; P. Zengel, *Assassination and the Law of Armed Conflict*, in (1991-1992) *Mercer Law Review*, 615; M. N. Schmitt, *State Sponsored Assassination in International and Domestic Law*, (1992) *Yale JIL* 609.

[92] For instance, a civilian politician who is appointed Minister of Defence or takes strategic decisions. See M. Roscini, *Targeting and Contemporary Aerial Bombardment*, in (2005), *ICLQ*, at 419; Y. Dinstein, Jus in bello *Issues arising in the Hostilities in Iraq in 2003*, in (2004), *IYHR*, at 10; M. N. Schmitt, *supra* note 39, 74-81.

difficult to ascertain due to the specific characteristics of such armed individuals.[93] Similarly, the classification of weapons of mass destruction as a legitimate military target cannot be questioned from a legal point of view; [94]indeed it is well known that actions against Iraqi facilities used for the production of chemical, bacteriological and nuclear weapons were also carried out during the "first" Gulf War. Concerning actions in 1991 in particular, we cannot agree with the criticism of these attacks expressed by some authors, based on the absence of a "concrete military advantage" to be obtained from these actions because the Iraqi nuclear programme was too underdeveloped.[95] This objection does not take into account either the possibility that Coalition troops could have been exposed to attacks by crude radioactive weapons[96] or the fact that several declarations issued by Iraqi leaders indicated the willingness to use all available means, including non conventional weapons, to repel the Coalition's advance.

Nevertheless, as will be analysed below, the particular decision-making process used for the execution of attacks against so-called "time-sensitive targets" raises several doubts about the lawfulness of these actions.

3.7 Other criticised actions

Further analysis of the Coalitions' targeting processes could be carried out with reference to single actions which attracted strong criticism from some authors. In particular, during the "first" Gulf War, attacks against the so-called "Baby Milk Factory" in Abu Ghraib and the Al Firdos bunker in Baghdad were particularly questioned. The main criticism voiced against these actions concerned the reliability of the Coalition's system of recording

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[93] Even if such individuals cannot be considered legitimate combatants, acts of violence against them seem to be admitted by recent legal literature. See: R. Wedgwood, *Al Qaeda, Terrorism and Military Commissions*, in (2002) *AJIL*, 328; J. J. Paust, *Use of Armed Force Against Terrorists in Afghanistan, Iraq, and Beyond*, in (2002) *Cornell ILJ*, 533; C. Downes, *"Targeted Killings" in an Age of Terror: The Legality of the Yemen Strike*, in (2004) *JCSL*, 277; M. N. Schmitt, *supra* note 39, 81-89.

[94] Obviously, attacks against such weapons should be carried out following the precautionary measures indicated in Article 56 of the First Additional Protocol. However, that circumstance does not alter their nature as legitimate military objectives.

[95] See H. Meyrowitz, *La guerre du Golfe*, *supra* note 51, 580-581.

[96] See the statement of the British Ministry of Defence: "…we were not prepared to put any of our forces at risk of facing some sort of nuclear or possibly some form of crude radioactive weapon that might have been developed, to face them with that, and that is why with the very greatest care and after the most detailed planning to minimize the risk of any contamination or the risk of any radiation spreading outside the site, that very carefully and very precisely those sites were attacked. I am not aware of any evidence that there was a risk of contamination outside the site..." (*Preliminary Lessons of Operation Granby*, *supra* note 10, 10-11).

and evaluating target information. On the one hand, Iraq has always maintained that such facilities were never employed for military purposes; on the other hand, the United States affirmed that the factory was used for the production of bacteriological weapons and that the bunker was employed as a centre of command and control, denying knowledge of its use as a civilian shelter. In the absence of further information it seems impossible to draw appropriate legal conclusions on these actions.[97]

4. The Execution of Attacks

Obviously, a legal review of the two air campaigns cannot be limited to an analysis of the Coalitions' targeting processes, as correct identification of attacked objectives as military targets may not be sufficient to guarantee full compliance with international humanitarian law. It is clear that an examination of the actual execution of air bombardments is required to evaluate whether the attacking Parties complied with other basic rules that are relevant to the conduct of military operations, in particular the two related principles of proportionality and precautions in attacks. We will therefore analyse the way bombardments were carried out in order to verify whether these two fundamental principles were respected and whether changes were introduced in the "second" Gulf War to avoid repeating some of the questionable choices made in 1991. Although Section 5 of this paper is specifically devoted to a global evaluation of the means of attack employed in the two conflicts, in this section we will be obliged at times to make reference to the use of particular categories of munitions in the execution of attacks in order to formulate a conclusive evaluation of these actions and the respect of the principles of proportionality and precaution.

For instance, the importance of analysing the actual execution of air attacks is self-evident in the review of bombardment of the Iraqi electricity infrastructure. Even if we can assume, as we did above, that such objectives may be considered legitimate military targets, dramatic collateral damage caused by their bombardment in 1991 prompted questions on their lawfulness, especially in relation to the fulfilment of the principle of proportionality. In fact, it is unnecessary to point out that long-term ineffectiveness of the electricity network and the technical difficulties in repairing it can have harsh effects on the civilian population (e.g. ineffectiveness of water systems, reduced capabilities of medical facilities,

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[97] For opposite views on such attacks see: *HRW Report 1991*, *supra* note 44; *Report on Congress*, *Appendix*, *supra* note 12, 626-627; A. L. DeSaussure, *The Role of the Law of Armed Conflict during the Persian Gulf War: An Overview*, in (1994) *The Air Force Law Review*, 64-65.

etc.).[98] In the aftermath of the "first" Gulf War, several independent United Nations observers reported extensive structural damage produced by Coalition bombardments on the Iraqi electricity system and, consequently, difficulties caused to the civilian population.[99]

In particular, evaluation of actions against dual-use targets involves general issues such as the time span used to assess potential collateral damage or the causal link between attacks and negative effects. In my opinion, especially for certain categories of targets, an evaluation of the negative consequences of belligerent actions should also take long-term effects into consideration. In particular, due to interconnections in modern civilised societies, limiting such an assessment process to short-term effects can result in short-sighted analysis. Obviously, an evaluation of collateral damage may be easier for certain categories of actions (e.g. destruction of civilian houses in order to conquer a military outpost). Nevertheless, the fact that evaluation of the potential future effects of bombardment is more complex for specific target categories does not alter the nature of the attacking State's obligation. It is doubtful that the attacking State can be exempt from evaluating the potential damage only because assessment of reverberating effects is more uncertain and abstract. Even if a certain margin of uncertainty exists in such a situation, it appears clear that this process of evaluation is not impossible, especially for highly-specialised personnel such as targeting officers. Moreover, it is fundamental with reference to specific attacks, such as those against electricity grids, which cause particularly severe consequences in the long term.

However, analysis of the official documents submitted by attacking States in 1991 brings other uncertainties to light. For instance, they show

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[98] Several authors are particularly critical of these bombardments: H. Meyrowitz, *La guerre du Golfe*, *supra* note 51, 579-580; J. Gardam, *Proportionality and Force in International Law*, in (1993) *AJIL*, 405-406; R. Normand/ C. A. Jochnick, *The Legitimation of Violence*, *supra* note 88, 399; J W. Crawford, *The Law of Non-combatant Immunity and the Targeting of National Electricity Power Systems*, in (1997) *Fletcher Forum of World Affairs*, 101. On the contrary, Kuehl accepts such bombardments as lawful (see D. T. Kuehl, *Airpower vs. Electricity: Electric Power as a Target for Strategic Air Operations*, in (1995) *Journal of Strategic Studies*, 237).

[99] See *Report to the Secretary-General on Humanitarian Needs in Kuwait and Iraq in the Immediate Post-Crisis Environment by a Mission to the Area Led by Mr. Martii Athisaari, Under-Secretary-General for Administration and Management*, UN Doc. S/22366 (1991), at 5 "…most means of modern life support have been destroyed or rendered tenuous. Iraq has, for some time to come, been relegated to a pre-industrial age, but with all the disabilities of post-industrial dependency on an intensive use of energy and technology". On severe impediments caused to essential civilian population services, see *ibidem*, at 12. On damage to water-treatment facilities caused by lack of electricity, see *Report to the Secretary-General Dated 15 July 1991 on Humanitarian Needs in Iraq Prepared by a Mission Led by Sadruddin Aga Khan*, UN Doc. S/22799 (1991), 17-20 and *WHO/UNICEF Special Mission to Iraq*, UN Doc. S/22328 (1991), at 21.

that more than 88 percent of Iraqi electricity capabilities were destroyed during the armed conflict.[100] In contrast, according to United Nations information, only 5-7 percent of the Kuwaiti electricity network was damaged by Coalition bombardments in the last days of the air campaign.[101] If attacks against the Iraqi electricity grid were really based only on the intent to diminish enemy military capabilities, it appears quite unusual that a similar aim was not pursued more substantially against the Kuwaiti electricity system, which was utilised by the Iraqi troops for their operations until the end of hostilities.

Secondly, modes of attack against electricity plants appear to be open to discussion. In fact Coalition air forces preferred to bomb Iraq's main electricity-generating plants extensively instead of trying to disable Iraqi capabilities through attacks against electric power distribution facilities, which are easier to repair, thus determining a long-term lack of essential services. The main criticism is that, according to official documents, US targeting officers were well aware of the probability of such a detrimental long-term impact on the civilian population and several times discouraged attacks on electricity-generating plants during the conflict. However, such requests were largely ignored for various reasons.[102]

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[100] See *GWAPS*, Vol. II, *supra* note 43, at 489: "…the available evidence indicates that the immediate military objective of rapidly shutting down the generation and distribution of commercial electric power throughout most of Iraq, thereby forcing the Iraqi leadership and military onto back-up power, was achieved. Ultimately, almost 88 percent of Iraq's installed generation capacity was sufficiently damaged or destroyed by direct attack, or else isolated from the national grid through strikes on associated transformers and switching facilities, to render it unavailable; the remaining 12 percent, which was resident in numerous smaller plants that were not attacked, was probably unusable other than locally due to damage inflicted on transformers and switching yards".

[101] See *Report to the Secretary-General by a United Nations Mission, Led by Abdulhrahim A. Farah, Former Under-Secretary-General, Assessing the Scope and Nature of Damage Inflicted on Kuwait's Infrastructures During the Iraqi Occupation of the Country from 2 August 1990 to 27 February 1991*, UN Doc. S/22535 (1991), at 73.

[102] First of all, specific aim points for these strikes were not always included in the orders of operations submitted by Coalition planners to operative commands in the theatre. In the absence of specific guidance, several bombardments were carried out against generators which are generally easier to identify and to attack (see *Report to Congress*, *supra* note 2, 150-151). Secondly, mandatory orders in this sense were only submitted to operative commanders in the first days of February – weeks after the start of hostilities. In fact, the circulation of a specific memorandum on "Target Guidance" prepared by Gen. Glosson was possible only in early February 1991. In this document, it was specified that Coalition air strikes ought to avoid bombing generators and turbines (see *GWAPS*, *supra* note 43, Vol. 2, 480-481, note 1504). In addition, the continuation of attacks appears to have been determined largely by the Coalition's inability to assess the battle damage of these actions reliably. According to *GWAPS*, *supra* note 43, Vol. II, at 486, "Much of the reason for the re-strikes stemmed from difficulties in confirming the desired levels of damage using imagery during the

Such uncertainty regarding the conformity with the principle of proportionality of the Coalition's air attacks against electric power facilities evidently influenced the methods of attack employed during the "second" Gulf War. The Iraqi electricity network was again one of the Coalition's main targets, but this time the attacking States adopted a numbers of changes. First of all, Coalition forces decided to avoid targets such as generators, preferring to attack switching facilities. Secondly, following previous experience gained in *Allied Force* operations, the majority of attacks were carried out with munitions containing carbon fibre filaments designed to create short-circuits to temporarily incapacitate electric facilities without creating structural damage. In the aftermath of the conflict it seems that attacks against the Iraqi electricity network did not have a particularly negative impact on the civilian population. It is evident that the negative experiences of the "first" Gulf War contributed to introducing changes in the method of attack against such targets, in order to comply more fully with standards of international humanitarian law.[103]

As previously indicated, attacking States have the obligation to adopt all precautionary measures during the execution of bombardments. This basic principle, as codified in Article 57 of the First Additional Protocol, essentially requires attacking States to verify the nature of targets and to choose the suitable methods and means of attack to minimise collateral damage. An analysis of Coalition air operations in 1991 and 2003 allows us to identify questionable issues in relation to the obligation to adopt adequate precautions during attacks.

In particular, concerning the issue of identification, specific attention should be paid to attacks carried out in 2003 against so-called "time-sensitive targets". Such attacks were characterised by the short time dedicated to evaluation of the decision to carry out the action: identification of potential targets and accomplishment of the mission is usually only a matter of minutes. Such actions were based on decision-making mechanisms that differ from those used in pre-planned attacks against fixed facilities. As exemplified by military authorities, they required that "… decision-making on targeting needed to move from what had been "sedate" to "fast and furious".[104] Even though the lawfulness of these attacks was reviewed in

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first two weeks of the war". On these topics also, see M. W. Lewis, *The Law of Aerial Bombardment in the 1991 Gulf War*, in (2003) *AJIL*, 495-496.

[103] On these bombardments see *HRW Report 2003*, *supra* note 44. In the aftermath of the conflict, it did not appear that severe harm to the civilian population had derived from lack of electricity attributable to air bombardments. In several cases, difficulties in restoring pre-war capabilities could be attributed to terrorist activities which specifically targeted such infrastructures and the foreign personnel charged to reconstruct them.

[104] See *Lesson of Iraq*, *supra* note 10, at 59.

advance by legal advisers,[105] it appears evident that on several occasions a reliable evaluation of the objectives was impossible due to the short time available, and this led to mistakes.

With regard to attacks against the Iraqi leadership, we should note that these actions do not appear unlawful *prima facie*. In fact, they were carried out using adequate means of combat (precision-guided munitions) and, moreover, the military advantage anticipated (killing the most important Iraqi leaders) was apparently high. However, an overall evaluation of the decision-making process shows that in such cases an adequate ascertainment of the nature of targeted objectives was lacking. For instance, US statements indicate that some attacks were launched even when military authorities did not have reliable information on the identification and actual presence of presumed Iraqi leaders in the buildings attacked. Therefore, these bombardments, usually carried out against individuals located in civilian buildings, such as private accommodations, resemble "blind attacks".[106] The inadequate nature of the information used by the attacking States in the decision-making process is self-evident from the results of these actions. Even if official data indicates that 50 bombardments were carried out with the aim of eliminating Iraqi leaders, it is impossible to identify a single case in which these actions appear to have been successful.[107]

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[105] See the statements by Air Marshall Torpy in front of the Select Committee on Defense: "I always had a lawyer and I also had a political advisor to make sure that between us we came to an agreed position on a particular target. We did that for fixed targets and we did that for time-sensitive targets as well...and these were targets which would appear very fleetingly, you would maybe have to attack them within minutes, and the person who was taking a judgment on that particular target always had a lawyer sitting next to him 24 hours a day" (*Lesson of Iraq*, *supra* note 10, Minutes of Evidence, question 1290). Similarly, attacks against "time-sensitive targets" carried out by Australia implied a prior evaluation on their lawfulness with national rules of engagement and international humanitarian law standards (see Australian Ministry of Defence, *The War in Iraq*, *supra* note 24, at 27).

[106] See the press conference of Gen. Brooks: "We had credible information that indicated that there was a regime leadership meeting occurring yesterday. While it's not useful to get into any speculation on who might have been present at that meeting, what we will say is that we had an opportunity – as we've said before, we respond to opportunities, but we had an opportunity to attack that particular leadership meeting…As to who was inside and what their conditions are, it will take some time before we can make that full determination…As to the results of this particular attack that occurred yesterday, like others, it is possible that we may never be able to determine exactly who was present without some detailed forensic work" (8/3/2003).

[107] See USCENTAF, *Operations Iraqi Freedom*, *supra* note 3, at 9. In several cases, participating States were obliged to retract previous statements in which they affirmed to have achieved positive results through these bombardments. Such was the case, for instance, with British declarations on the killing of "Alì the chemist" in Bassra. Currently he is jailed awaiting penal proceedings in front of the Special Tribunal in Baghdad.

Obviously, legal standards do not state that a military commander must be completely certain before launching an attack, as he is only obliged to carry out measures which can be considered "*feasible*"[108] in identifying the nature of targeted objectives. Nevertheless, an examination of these actions shows that the information used by the Coalition to decide on attacks was not sufficient or adequate to permit reliable evaluation, thus violating the reasoning of the principle. Furthermore, the Coalition's failure to change the decision-making process despite repeated mistakes was in strong contrast with the obligation to distinguish as set down in Article 52.2 of the First Additional Protocol, which obliges the attacking State to refrain from military actions which can only guarantee potential and uncertain military advantages.[109] Based on its series of failures, the Coalition authorities should have deduced that their processes of collection and evaluation of information concerning these military objectives were not adequate to prevent mistakes in identification, thus implying that the military advantage anticipated was too vague.[110]

Secondly, these actions also appear to conflict with recent positions adopted by international criminal tribunals concerning the principle of proportionality, especially those of the ICTY in the *Kupreskic* case.[111] In

[108] The Commentary on Article 57.2 *a* (i) indicates: "Thus, the identification of the objective, particularly when it is located at a great distance, should be carried out with great care. Admittedly, those who plan or decide upon such an attack will base their decision on information given them, and they cannot be expected to have personal knowledge of the objective to be attacked and of its exact nature. However, this does not detract from their responsibility, and in case of doubt, even if there is only slight doubt, they must call for additional information and if need be give orders for further reconnaissance…The evaluation of the information obtained must include a serious check of its accuracy…What is required of the person launching an offensive is to take the necessary identification measures in good time in order to spare the population as far as possible" (see Y. Sandoz et al., *Commentary*, *supra* note 30, at 680 and 682, paras. 2195 and 2198). This provision is reproduced in some US military manuals (see, for instance, *Air Force Pamphlet 110-31*, *supra* note 14, 5-9, 5-10).

[109] See the Commentary on Article 52.2: "…it is not legitimate to launch an attack which only offers potential or indeterminate advantages. Those ordering or executing the attack must have sufficient information available to take this requirement into account; in case of doubt, the safety of the civilian population, which is the aim of the Protocol, must be taken into consideration" (see Y. Sandoz et al., *Commentary*, *supra* note 30, at 636, at para. 2024).

[110] In such cases, the US position not to recognise the customary value of Art. 52.3 of the First Additional Protocol, which makes it obligatory to consider an object normally dedicated to civilian purposes as immune from attack, may have played a role in the concretization of harm to the civilian population.

[111] We obviously refer to the criteria announced by the International Criminal Tribunal for Former Yugoslavia in the *Kupreskic* case, in which the judges asserted that "…in case of repeated attack, all or most of them falling within the grey area between indisputable legality and unlawfulness, it might be warranted to conclude that the cumulative effect of such acts entails that they may not be in keeping with international law. Indeed, this pattern of military conduct may turn out to excessively jeopardize the lives and assets of civilians, contrary to the

fact, even though a case-by-case examination of these actions does not show that the strikes were manifestly illegal, failure to respect the principle of proportionality is however discernible. By placing these repeated attacks in a wider context, we can see that none of them achieved the proposed aim, and therefore their cumulative negative effects do not appear to be proportional.[112]

In addition, further legal doubts are raised by information provided in official documents on 102 bombardments against weapons of mass destruction carried out during the "second" Gulf War.[113] Given that, despite extensive search campaigns in the aftermath of the conflict, Coalition forces were unable to find sites containing such weapons, also in this case the bombardments against these "time-sensitive targets" were carried out without reliable information. These attacks could also be considered "blind".

This criticism has to be added to similar doubts concerning air attacks against moving targets, such as enemy troops, autonomously identified by aircrews or signalled by Coalition troops in the field during so-called "close air support" (CAS) missions. In both air campaigns against Iraq, there are several bombardments on record that caused damage to the civilian population due to the incorrect identification of such objectives.[114] In our

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demands of humanity"; *Prosecutor v. Kupreskic et al.*; *Judgement*, (2000), Case no. IT-95-16-T (ICTY, Trial Chamber II) at para. 526.

[112] Even if we accept the most restrictive opinions expressed on the principle of proportionality by the ICTY Committee of Experts, it is clear that in this case the lawfulness of bombardments also appears to be doubtful. As is known, the experts refused the approach adopted by the ICTY in the *Kupreskic* case. According to them "…where individual (and legitimate) attacks on military objectives are concerned, the mere cumulation of such instances…cannot *ipso facto* be said to amount to a crime. The committee understands the above formulation, instead, to refer to an overall assessment of the totality of civilian victims as against the goals of the military campaign" (see *Final Report*, *supra* note 75, at para. 52). Nevertheless, even if we evaluate such "targeted killings" in a more ample sphere, such as the overall air campaign, it is evident that we can not modify our criticism of these bombardments. In fact, during the overall air campaign, none of these attacks was able to reach the proposed goal (*i.e.* elimination of the Iraqi leadership).

[113] See USCENTAF, *Operations Iraqi Freedom*, *supra* note 3, at 9. According to these figures, 66 attacks against weapons of mass destruction were launched in the south, 19 in the west and 17 in the north of Iraq.

[114] During the "first" Gulf War, there were several attacks on Bedouin tents, civilian vehicles on highways and civilian oil tankers directed towards the Jordanian border attributable to Allied efforts to eliminate SCUD missile sites and equipment (see *HRW Report 1991*, *supra* note 44). Also see the letter from the Permanent Representative of Jordan to the UN in a letter to the Secretary-General complaining about civilian losses due to "…the bombing by United States and allied aircraft of trucks and tankers belonging to Jordanian companies" (UN Doc. S/22205, 7/2/1991). After the official end of the "second" Gulf War, an air operation carried out on 19 May 2004 against private accommodations in which civilians were gathered to

view, in these cases as well, the main critique must be directed at the decision-making process behind the attacks on "targets of opportunity". In reality, conceding wide margins of freedom of action to military aircrews, who are authorised to attack enemy objectives in the theatre of operation, can lead to mistakes in identification. In such cases, further precautionary measures ought to be adopted. For instance, we refer to the requirement of effective visual identification of the target by aircrews. In the "second" Gulf War, we can see that such specific precautions appear to have been adopted only during close air support missions in which Coalition troops were located beside Iraqi armed forces.[115] Nevertheless, even in these instances, Coalition authorities recognised the difficulty in carrying out accurate bombardments against such targets located in urban areas.[116] Given that similar inconveniences occurred during the conflicts in Yugoslavia and Afghanistan, the fact that Coalition air forces did not provide more rigorous rules of engagement for such attacks in 2003 has to be highlighted as negative.[117]

As stated above, respect of the principle of precaution also implies the need to adopt all feasible methods and means of attacks to minimise collateral damage. In my opinion, if we analyse the two air campaigns, we can observe a series of improvements in the modes of attacks, which were

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celebrate a marriage was particularly criticised. As had already occurred in Afghanistan, it seems that US military aircrews decided to open fire in reply to shots fired during the wedding. However, according to the US command, the operation was carried out against terrorists located in that house; helicopters were obliged only to reply to enemy shots. (see HQ US Central Command, *News Release Number 04-05-46*, 19/5/2004).

[115] See the press conference of Gen. Brooks: "This image is a tank positioned in trees along a canal…this is a close air support mission, unlike some of the other weapons systems videos we have shown where there may not have been someone on the ground focusing it. In those other cases, the pilot identified the target. In close air support missions like these and all other air operations now occurring in and around Baghdad, it requires not only the pilot to be able to see the target, but someone on the ground that can see the target and identify it as well before any weapons are released" (8/3/2003).

[116] See, UK Ministry of Defence, *Operations in Iraq. Lesson for the Future*, 2003, at 30 "…A relatively new feature of this operation was the requirement for air assets to conduct CAS in an urban environment. The use of weapons with a large explosive yield on CAS missions was often impossible owing to the risk of collateral damage…Although RAF aircraft delivered inert 1000lb bombs to minimise collateral damage, these often did not create the desired effect".

[117] On mistakes that occurred during such air operations, due to incorrect information or inadequate identification of objectives, see E. David, *Respect for the Principle of Distinction in the Kosovo War*, in (2000) *YIHL*, 98; M. Lippman, *Aerial Attacks on Civilians and the Humanitarian Law of War: Technology and Terror for World War I to Afghanistan*, in (2002) *California Western ILJ*, 48; F. Klug, *The Rule of Law, War, or Terror*, in (2003) *Wisconsin LR*, 377-378.

motivated by the desire to ensure better compliance with international humanitarian law standards. In fact, apart from the changes adopted in the methods of attack against Iraqi electricity facilities in 2003, as already analysed, we can report other examples in which the initial modes of bombardment were modified to respect the principle of precaution more effectively.

For instance, particular reference has to be made to attacks against infrastructure. As is known, some authors criticised the attacks on bridges located in urban areas during the "first" Gulf War, which caused several civilian losses due to mistakes in the use of "dumb" bombs, timing of attacks (which meant that civilians were using the bridge), malfunctioning munitions, etc.[118] In fact, when these structures are located in urban areas, it seems there should be specific obligations of conduct on the attacking party to choose modes and means of bombardment that will minimise collateral damage as much as possible (e.g. attacks at night time, use of precision-guided munitions, etc.).

Such technical capabilities were available to the States involved in the "first" Gulf War.[119] Yet, on several occasions British and American forces were considered responsible for inaccurate bombardments against bridges located in urban areas, and this could be blamed in particular on the use of unguided munitions, a kind of weapon which was rightly identified as inappropriate for these actions by the US Air Force "targeting officers" several months before the beginning of the "first" Gulf War. Unacceptable collateral damage due to these bombardments forced participating States to modify their means of air attacks against such infrastructure during the conflict. From an analysis of official data we can see that, by the end of hostilities, Coalition air forces systematically used only precision-guided munitions against such targets.[120] This was obviously the appropriate choice if these kinds of actions were to conform to the principles of international humanitarian law. It appears that the same choice was made during the

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[118] On several inaccurate attacks against bridges, see *HRW Report 1991*, *supra* note 44.

[119] For instance, the United States already used precision-guided munitions during the Vietnam conflict (see W. H. Parks, *Rolling Thunder and the Law of War*, in January-February (1982) *Air University Review*, 2; W. H. Parks, *Linebacker and the Law of War*, in January-February (1983) *Air University Review*, 2). Similar means were available to other participating States, such as the United Kingdom and Italy, in 1991.

[120] For references on the British decision to use only "dumb" bombs during the first two weeks of the 1991 air campaign and on subsequent modifications due to excessive collateral damage, see *GWAPS*, Vol. 2, *supra* note 43, at 451. See, moreover, *Air Force Pamphlet 14-210*, *supra* note 14, at 139: "…In Aug 90 CENTAF targeting personnel recommended that bridges only be attacked by aircraft using PGMs. Initially, this advice was ignored, but based on unacceptable results, planned shifted to using PGMs".

"second" Gulf War in 2003, in which only one incident due to accidental bombing of a civilian bus crossing an attacked bridge was recorded.[121]

As indicated above, an analysis of bombardments during the "second" Gulf War seems to show that Coalition air forces were usually more accurate in the execution of attacks against fixed targets, as also recognised by non-governmental organisations.[122] In particular, due to the correct choice of aim points,[123] the timing of attacks,[124] the use of precision-guided munitions and new types of munitions (e.g. non-explosive CBU-107 cluster bombs) as well as more modern means of attacks (e.g. unmanned *Predator* aircraft),[125] pre-planned attacks against Ministries, telecommunications networks, government buildings, etc. were conducted in a selective manner, thus avoiding drastic collateral damage.

Finally, as for precautions in the execution of attacks, special attention has to be paid to bombardments against facilities used for the production of weapons of mass destruction carried out in 1991, as these kinds of actions are regulated by special rules included in Article 56 of the First Additional Protocol. Although this provision has never been recognised as an expression of customary law by the United States, by analysing information available on these attacks we can infer that the principles expressed in this rule have substantially been recognised as applicable in these concrete cases.

In particular, we can see that prior to bombardments against installations used for the production of bacteriological weapons, the United States requested a series of scientific experiments in order to identify the best techniques of attack so as not to release dangerous elements into the atmosphere. Similarly, actions against installations used for the production

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[121] On this attack carried out on 24 March by a US aircraft, see *HRW Report 2003*, *supra* note 44, and *Keesing's Contemporary Archive*, 2003, 45318.

[122] See *HRW Report 2003*, *supra* note 44: "…Pre-planned targets primarily included leadership buildings, government buildings, and security buildings. These attacks, carried out by the United States solely with precision-guided munitions, led to few known civilian casualties. In addition to the accuracy of such weapons, thorough collateral damage estimates helped minimize the civilian toll…weapon choice and fuzing contributed to the low casualty rate from bombing".

[123] For instance, in order to eliminate telecommunications networks, Coalition air forces preferred to attack specific aim points such as cable vaults, which, due to the fact that they are normally located outside urban areas, reduced risks for the population (see *HRW Report 2003*, *supra* note 44).

[124] As indicated by the *HRW Report 2003*, *supra* note 44, attacks against Ministries and government structures were usually carried out at night.

[125] For instance, some actions against the Ministry of Information were carried out by these aircraft, which have the advantage of offering visual identification of targets and using special munitions of limited weight, which reduce damage to buildings. Moreover, in attacks against communication antennas located on the roof of this Ministry, Coalition air forces used non-explosive CBU-107 cluster bombs, which destroy technical apparatus through inert rods without creating an explosion and, therefore, without causing excessive damage.

of nuclear material were carried out avoiding risks for the environment and the civilian population. This was essentially possible due to both the location of these facilities, situated outside urban areas, and the embryonic stage of development of the Iraqi nuclear programme in 1991.[126] Such precautions appear to have been effective, as no complaints about negative effects to the civilian population caused by these actions were recorded in the aftermath of the conflict. In addition, these actions are in line with the conditions set down in Article 56 of the First Additional Protocol, which does not completely prohibit attacks on such installations.[127] As observed, during the "second" Gulf War, official US data indicates that 102 bombing missions were carried out against weapons of mass destruction. However, the available information does not make it possible to assess whether Coalition air forces decided to adopt precautionary measures, or to ascertain the characteristics of the objectives targeted, thus raising serious doubts as to the real nature of the installations attacked.

5. Means of attack

In order to complete this comparative analysis of the two air campaigns, the means of attacks employed by the Coalition air forces must be analysed to ascertain whether they were suitable for protecting the civilian population. This analysis can be divided into several categories.

5.1 Precision-guided munitions (PGMs)

It is commonly believed that the air campaign in the "first" Gulf War can be identified as a classical example of "precision" conflict due to the massive use of precision-guided munitions. However, analysing official data we can see that only 7-8 percent of the total weapons used by the United States in air attacks were PGMs and a similar percentage was employed by the other

[126] On these precautionary measures, see M. W. Lewis, *The Law of Aerial Bombardment*, *supra* note 102, 489-490. For instance attacks against biological weapons were carried out after a series of experiments showed that such spores decayed rapidly in direct sunlight and that they can be destroyed by exposure to high temperatures. In order to create such effects, the US used penetrating warheads and incendiary bombs. Moreover these attacks were carried out just before sunrise to maximise the spores' direct exposure to sunlight. Also, attacks against nuclear plants and installations producing chemical weapons were conducted only after scientific analysis guaranteed that no significant amount of toxic material would be released into the atmosphere by the attack, limiting such potential emissions to specific remote areas.

[127] Article 56 prohibits attacks on such facilities "…if such attack may cause the release of dangerous forces and consequent severe losses among the civilian population".

attacking States.[128] In any case, it is unquestionable that the "first" Gulf War represented a first step in the progressive trend by developed states to use PGMs in armed conflicts, as exemplified in the subsequent *Allied Force* and *Enduring Freedom* operations. The extensive use of PGMs was particularly accentuated during the "second" Gulf War. For instance, the percentage of PGMs used by the US Air Force was more than 68 percent[129] and the percentage used by other participating States was even higher (United Kingdom 85 percent,[130] Australia 100 percent[131]). Several advantages were pursued by such broad use of PGMs. First, they are more effective than non-guided weapons against fixed targets, for example, as they usually do not require many attempts to hit the target.[132] Second, they generally reduce collateral damage, a characteristic that has been particularly emphasised in official declarations during both Gulf conflicts.[133]

The progressive trend to use PGMs since the 1991 conflict raises several questions. In particular, the doctrine concentrates on the possibility of a legal obligation for attacking States to make exclusive use of these weapons.[134] In

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[128] See United States General Accounting Office, *Operation Desert Storm. Evaluation of the Air Campaign*, GAO/NSIAD-97-134, 1997, 178 (hereinafter *GAO Report*). According to such data only 7.6 percent of munitions dropped by the US in 1991 were PGMs. During that conflict, about 18 percent of UK ordnance was PGMs (see UK Ministry of Defence, *Operations in Iraq*, *supra* note 116, at 29).

[129] See USCENTAF, *Operations Iraqi Freedom*, *supra* note 3, at 11.

[130] See *Lesson of Iraq*, *supra* note 10, at 60.

[131] See Australian Ministry of Defence, *The War in Iraq*, *supra* note 24, at 26.

[132] For instance, US Navy analysis of the effectiveness of attacks against bridges in 1991 showed that only an average of 1.3 PGMs was needed to destroy such an objective, while it required an average of 15 "dumb" bombs (see *GAO Report*, *supra* note 128, at 188).

[133] See, for instance, British statements on methods employed for conducting air attacks during the 2003 air campaign "…In the planning of an air campaign, an intensive intelligence-based study of potential military targets is undertaken…during this process any civilian objects…within a defined radius…from the intended target are identified. If this analysis gives rise to concerns about collateral damage, then specialist trained targeteers will conduct further levels of analysis to eliminate or mitigate the potential for civilian casualties. During this process the targeteer will consider alternative options such as: - employing precision-guided munitions; - employing smaller weapons; - employing alternate fuzing options: - selecting different aim points; - limiting attacks directions; - timing the attack for period of low or zero occupancy" (see *Lesson of Iraq*, *supra* note 10, Vol. III, *Written Evidence*, *Further memorandum for the Ministry of Defence on Operations Telic air campaign*, December 2003, Q. 1297).

[134] Some authors do not believe such a duty exists: D. L. Infeld, *Precision-Guided Munitions Demonstrated Their Pinpoint Accuracy in Desert Storm: But is a Country Obligated to use Precision Technology to Minimize Collateral Civilian Injury and Damage?*, in (1992) *George Washington Journal of Int. Law and Economy*, 109; A. L. DeSaussure, *The Role of the Law*, *supra* note 97; 60-61; W. H. Parks, *The Protection of Civilians From Air Warfare*, in (1997) I*YHR*, 85-86; J. F. Murphy, *Some Legal (and a few Ethical) Dimensions of the Collateral Damage resulting from NATO's Kosovo Campaign*, in (2001) *IYHR*, 51. Favourable to

my opinion, it is incorrect to hypothesise the presence of a generic obligation imposing exclusive use of PGMs in all conflict situations. There are several circumstances in which the use of "dumb" bombs does not raise any legal concern.[135] However, I maintain that in certain situations the use of PGMs appears to be mandatory, such as in cases in which the potential collateral damage predicted in case of failure of "dumb" bombs is too great, like attacks on military objectives located in urban areas. In such circumstances the obligation for the attacking State to employ PGMs can be inferred from the principles expressed in Article 57.2 (ii) of the First Additional Protocol, which imposes means of attack that avoid or minimise injuries to civilians.[136] Moreover, even if we do not want to link such a conclusion to a specific provision, it can also be deduced from a generic interpretation of the principles of distinction, proportionality and precautions. It is obvious that the obligation on the attacking State not to cause excessive collateral damage and to distinguish between military objectives and civilian objects implies that in some situations the State has a legal obligation to employ the most appropriate means available to achieve those aims. In some cases, therefore, the use of PGMs seems to be mandatory.

Nevertheless, some authors assert that such conclusions would impose heavier and unacceptable obligations on the attacking State, and that the attacking State should not be limited if the defending State has not complied with its duty to separate military objectives from civilian objects by locating them in urban areas.[137] In my view, such criticism cannot determine a generic acceptance of conducting air attacks in whatever manner deemed necessary. It is impossible to assume that, since the defending State violated the rules imposed by international humanitarian law the attacking State is exempted from the obligations imposed on it. In several situations the use of PGMs is mandatory according to international humanitarian law standards and must not be adopted merely for political reasons, with the aim of not altering public support for armed activities. No international rule obligates the attacking State to use air power instead of land invasion in order to

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recognition of such an obligation are instead, among others, M. N. Schmitt, *The Principle of Discrimination*, *supra* note 39, at 152; S. W. Belt, *Missiles Over Kosovo: Emergence, Lex Lata of a Customary Norm Requiring the Use of Precision Munitions in Urban Areas*, in (2000) *Naval Law Review*, 115.

[135] Reference could be made, for instance, to attacks against troops in the field, far away from civilian objects. In such cases, also from a strictly military point of view, it is preferable to employ non-guided munitions.

[136] Moreover, this provision is explicitly reproduced in American military manuals. See *Air Force Pamphlet 110-31*, *supra* note 14, 5-9, 5-10.

[137] See W. H. Parks, *Air War and the Law of War*, in (1990) *Air Force Law Review*, 112; Y. Dinstein expressed similar positions in his remarks published in (1992) *ASIL Proceedings*, at 55.

destroy the other State's vital centres, but if this tactic is adopted we cannot find particular justifications to exempt the attacking State from adopting the necessary precautionary measures to minimise collateral damage.

All developed States have progressively supplied their air forces with extensive stocks of PGMs and technical improvements have led to the creation of several types of PGMs, such as those using laser guides or the GPS system.[138] It is up to the attacking State to choose among these different typologies, analysing which weapon is more reliable in each specific case.[139] Nevertheless, the use of PGMs cannot relieve the attacking State of its duty to evaluate the lawfulness of the planned attack. As demonstrated by *ex post* US official evaluations of the "first" Gulf War, such munitions are far from infallible.[140] As also ascertained in official documents referring to the 2003 air campaign, a significant percentage of such bombs are expected to fail.[141] Therefore decision-making processes for attack must take such potential inconveniences into account. Where potential mistakes would cause excessive damage in relation to the anticipated military advantage, the attacking State ought to decide not to carry out the bombardment. Technological ability to use air power in a precise manner cannot be considered an open mandate to the attacking party.

5.2 "Dumb" bombs

As mentioned previously, the possibility of using non precision-guided munitions has to be ascertained on a case-by-case basis. In our opinion, such munitions should not usually be employed in urban contexts unless the military targets are sufficiently far away from civilian buildings. In other cases, such as against military troops operating in open fields, their

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[138] For an analysis of technological innovations see S. W. Belt, *Missiles Over Kosovo*, *supra* note 134, 117, M. N. Schmitt, *The Impact of High and Low-Tech Warfare on the Principle of Distinction*, Program on Humanitarian Policy and Conflict Research (Working Paper), 2003.

[139] For example, using munitions employing the GPS system makes it possible to avoid malfunctioning connected with PGMs using laser systems. In fact the latter can be deviated by fog curtains, poor weather, jamming systems, failure to identify the objective, and so on. However, munitions using the GPS system are seldom supplied with mechanisms able to interrupt attacks if, after the launch, civilians appear to be close to the target.

[140] On the imperfect precision of these munitions and several problems experienced during the 1991 conflict due to fog curtains, poor weather, fog, humidity, etc., see *Report to Congress*, *supra* note 2, at 169; *GAO Report*, *supra* note 128, 110; 177.

[141] For instance, British official data on the "second" Gulf War states that at least 10 percent of such munitions missed aimed targets: "…We were told that some 90 per cent of PGMs hit their target" (see *Lesson of Iraq*, *supra* note 10, 60). US data asserts that 70 percent of PGMs used in 2003 were able to hit the planned objective (see US DoD News Briefing, 9/5/2003 in www.defenselink.mil).

employment cannot be disputed. During the "first" Gulf War some attacks using "dumb" bombs carried out by Coalition aircraft appeared highly questionable. Reference can be made for instance to bombardments against fixed infrastructure such as bridges located in urban areas. In contrast, during the 2003 air campaign we have no record of specific complaints concerning incorrect use of non PGMs. It seems to be clear that the role of non PGMs in air conflicts can now be considered residual with respect to PGMs, which are rightly routinely used for missions that can cause severe collateral damage to the civilian population.

5.3 "Cluster Bombs"

One of the most controversial topics in contemporary literature concerns the legality of cluster bombs in air operations. Critics of their use focus on the facts that if their launch is inaccurate they can hit nearby non-military objectives and that a certain percentage of sub-munitions released by cluster bombs usually do not explode on impact as intended, but remain active nonetheless. Such munitions can therefore cause harm to civilians both during and after air strikes.[142]

With regard to air operations against Iraq, we can see that both the United States and the United Kingdom resorted to the use of cluster bombs.[143] While several attacks in the 1991 conflict were quite inaccurate,[144] an explicit change can be seen in the approach followed by military authorities in the 2003 air campaign concerning the requirements that have to be satisfied in order to permit the use of such munitions.[145] In particular, several official declarations underline that pilots were instructed to use such munitions only in select circumstances, avoiding cases in which their use

[142] International concern about harm to the civilian population due to explosive remnants of war is exemplified by the adoption of the Fifth Protocol to the 1981 Convention in November 2003 specifically devoted to this subject.

[143] In the 2003 air campaign, the US Air Force employed 1206 cluster bombs which contained a total of 237,546 sub-munitions (see USCENTAF, *Operations Iraqi Freedom*, *supra* note 3, at 11). The Royal Air Force used only 70 cluster bombs (model RBL-755 - see UK Ministry of Defence, *Operations in Iraq. First Reflections*).

[144] See, for instance, criticism expressed in *HRW Report 1991*, *supra* note 44.

[145] A willingness to reconsider the lawfulness of air attacks carried out with cluster bombs was already expressed in a dossier prepared by the *Air Force Judge Advocate General* (see *Bullet Background Paper on International Legal Aspects Concerning the Use of Cluster Munitions*, 30/8/2001). In this document, even if the admissibility of the use of cluster bombs was maintained, it was specified that there are "…some areas where CBUs normally could not be used (e.g. populated city centres)".

could have caused indiscriminate effects.[146] It is clear that the debate that developed on this topic within the international community contributed to imposing stricter limits on the States involved in the 2003 conflict.[147]

Moreover, in the 2003 air campaign, there is evidence that attacking States introduced technical modifications to improve their characteristics in order to avoid the release of munitions in urban areas close to fighting.[148] Secondly, the use for the first time of new models of cluster bombs was recorded, which seem to respond to the need to avoid indiscriminate use of such munitions.[149] Finally, some models guarantee that after a set period of time they will automatically be deactivated, thus eliminating one of the main inconveniences of cluster bombs.[150] A few changes were also introduced to make sure that some of the negative experiences that took place during the Afghan air operations would not be repeated. At that time, for example, there were a significant number of civilian victims due to the fact that "bomblets" were of the same colour as US Air Force air-delivered food packages. In the 2003 Gulf conflict, US military authorities decided to differentiate between the colours of these objects with the aim of avoiding any dangerous misunderstanding among the Iraqi population.[151]

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[146] For instance, see the statements by Ten. Gen. Reith: "The use of cluster munitions is always an operational decision…We give very clear guidance on trying to minimise casualties to civilians, and if and where cluster munitions have been used we would have tried to minimise that…We go through a very clear targeting process, whereby we calculate the potential for civilian casualties, and if we are going for a specific target we do it on that basis" (see *Lesson of Iraq*, *supra* note 10, Vol. II, *Minutes of Witnesses*, Q. 901).

[147] With reference to the 1999 air operations against Yugoslavia, we can quote criticism expressed by the British Foreign Select Committee: "…We recommend that the UK Government consider carefully the experience of the use of cluster bombs in the Kosovo Campaign to determine in future conflicts whether they are weapons which pose so great a risk to civilians that they fall foul of the 1977 Protocol and should not be used in areas where civilians live" (see House of Commons, Foreign Affairs Select Committee, Fourth Report, 23/5/2000, at para. 150). On this subject, see P. Benvenuti, *The ICTY Prosecutor*, *supra* note 87, at 513; E. David, *Respect, supra* note 117, at 97.

[148] We need to point out that about 75 percent of cluster bombs used by the United States were provided with a WCMD system (*Wind Corrected Munitions Dispenser*), capable of eliminating wind interference during their fall. The reference is to numerous models: CBU-103 (818 used), CBU-105 (88 used) and CBU-107 (2 used). See USCENTAF, *Operations Iraqi Freedom*, *supra* note 3, at 11.

[149] For instance, the CBU-107 WCDM is a non-explosive cluster bomb containing hundreds of inert rods. This bomb was used against antennae on the roof of the Ministry of Information without causing severe damage to the building. Secondly, the CBU-105 WCMD *Sensor Fuzed Weapon* has an infrared guidance system that directs "bomblets" to armoured vehicles, thereby avoiding their dispersion in the field.

[150] For technical characteristics of CBU-105, see www.globalsecurity.org/military/systems/munitions/blu-108.htm.

[151] See the press conference of Gen. Brooks on 2 April 2003. Replying to questions concerning possible employment of the same colour for sub-munitions and food packages, the

Nevertheless in the absence of explicit rules forbidding the use of cluster bombs,[152] criticism can only be focused on their indiscriminate use. Analysing the 2003 air campaign, it is obvious that even among States that permit the use of such munitions, unrestricted use was not considered in line with international humanitarian law. Only selective use can be said to conform to the principle of distinction and in our view all new technical modifications are in line with this trend of trying to reconcile military benefits with the need to respect principles of international humanitarian law.[153]

5.4 Depleted uranium

The lawfulness of the use of depleted uranium munitions is the subject of particularly heated debate.[154] Doubts concerning their use are principally based on the increase in health risks for military troops involved in the conflict and harm to the civilian population located in areas in which these projectiles are used.

With reference to the "first" Gulf conflict, massive use was made of these munitions by Coalition air forces. This raised several questions, especially in relation to negative effects on numerous Western soldiers, who claim to be victims of the so-called "Gulf Syndrome".[155] Several scientific sources have asserted that the higher incidence of pathologies among these troops and their offspring was caused by the massive use of depleted uranium munitions. However, even though more than a decade has passed since the

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officer specified that "…The humanitarian daily rations have changed colour. We learned some lessons from Afghanistan, and the color of the package is different now…".

[152] As is known, such was the position expressed by the ICTY Committee of Experts with regard to operation *Allied Force* (see *Final Report*, *supra* note 75, at para. 27). In the absence of a generic prohibition on the use of *cluster bombs*, see also the ICTY Decision, *ex rule 61*, in the *Martić* case "…there exists no formal provision forbidding the use of cluster bombs in armed conflicts"; *Prosecutor v. Martic*, *Rule 61 Decision* (1996) Case No. IT-95-11-I, (ICTY, Trial Chamber I) at para. 16.

[153] Positive comments on the Coalition's use of air-delivered cluster bombs in operation *Iraqi Freedom* were expressed in *HRW Report 2003*, *supra* note 44.

[154] See G. Venturini, *La tutela dell'ambiente durante i conflitti armati: la questione dell'uranio impoverito alla luce del diritto internazionale*, in A. De Guttry (a cura di), *Le nuove sfide della protezione internazionale dei diritti dell'uomo*, Pisa, 2002, 71.

[155] See W. Arkin, *The environmental threat of military operations*, in R. J. Grunawalt/ J. King/ S. McClain (eds.), *Protection of the Environment during Armed Conflict*, International Law Studies, Vol. 69, Newport, 1996, 116.

"first" Gulf War, it seems impossible to obtain definitive conclusions about these complaints.[156]

Nevertheless, while scientific analysis is uncertain about the potential negative effects of depleted uranium on military troops as they do not usually spend much time in contaminated areas, a different evaluation is usually reached regarding damage to the environment. In such cases, attention is devoted to possible long-term harm to the civilian population living in these areas, due both to extensive exposure to radiation and to the risks of inhalation or ingestion through pollution of water supplies. In scientific literature the existence of such potential risks is widely accepted.[157]

Special protection for the environment during armed conflict is provided by Articles 35 and 55 of the First Additional Protocol. Even though these are treaty provisions, we must remember that according to the International Court of Justice such norms "… embody a general obligation to protect the natural environment against widespread, long-term and severe environmental damage".[158] It should therefore be recognised that such provisions express principles of customary international law that are binding on all States. Therefore, the extensive use of depleted uranium munitions during the "first" Gulf War can be considered dubious if Iraqi official reports published in the aftermath of that conflict, which state a substantial increase in diseases among the civilian population attributed to indiscriminate use of depleted uranium projectiles, can be confirmed.[159] If this data were true, we would probably have to conclude that Coalition air forces violated this

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[156] Recent information provided by the US General Accounting Office indicates that the medical examinations carried out on Gulf veterans are of scarce reliability. Previous examinations seemed to exclude that damage to health connected with the so-called "Gulf War Syndrome" could be attributed to indiscriminate use of depleted uranium projectiles (see *GAO Report 04-159*, *Gulf War Illnesses*, 1/6/2004).

[157] With reference to the Kosovo conflict, see the UNEP Balkan Task Force report. In this document the UNEP did not exclude possible harm to the civilian populations due to direct contact with depleted uranium remnants of war or pollution of water resources (*Final Report: Depleted Uranium in Kosovo: Post-Conflict Environmental Assessment*, in http://balkans.unep.ch/du/reports/report.html).

[158] See *Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons*, ICJ, *Reports 1996*, at para. 31. The ICTY Committee of Experts seems not to recognise the customary value of these rules (see *Final Report*, *supra* note 75, paras. 14-25). However, several authors have criticised those conclusions: N. Ronzitti, *Is the non liquet of the Final Report by the Committee Established to Review the NATO Bombing Campaign against the Federal Republic of Yugoslavia acceptable?*, in (2000) *IRRC*, 1017; T. Marauhn, *Environmental Damages in Times of armed conflict – not "really" a matter of Criminal Responsibility?*, in (2000) *IRRC*, 1029; P. Benvenuti, *The ICTY Prosecutor*, *supra* note 87, 511.

[159] For comments on these reports, see N. Lefkir-Lafitte/ R. Lafitte, *Armes radioactives contre l'"ennemi irakien"*, in April (1995) *Le Monde Diplomatique*, at 22; B. Barrilot (ed.), *Les armes à uranium appauvri, jalons pour une interdiction*, Bruxelles, 2001.

obligation. In fact, the negative effects of such munitions on the environment and consequently on the civilian population could be defined as long-term damage, which is forbidden by these provisions. Secondly, it should be determined whether the extensive use of such munitions was in contrast with other fundamental principles of international humanitarian law, such as the principle of distinction, due to indiscriminate long-term negative effects on the civilian population.[160] Yet, to do so reliable and impartial data is required and such data is not available.

Regarding the "second" Gulf War, although there are statements confirming the use of depleted uranium projectiles by Coalition air forces,[161] their use appears to have been limited. It is impossible however to find an official declaration indicating that such restrictions were based on uncertainty about the weapons' legal status rather than on the fact that military objectives suitable for attack with depleted uranium munitions were scarce.

5.5 Unmanned Air Vehicles

During the 2003 air campaign, Coalition air forces also relied on *Unmanned Air Vehicles* (UAVs) for air operations. We know that such aircraft have also been employed in other recent conflicts as they improve the accuracy of air attacks. In particular, they can be used on recognition missions to evaluate the military character of enemy objects. For instance, during the "second" Gulf War, UAVs were employed on such missions prior to air attacks against the Iraqi Ministry of Information. The possible use of such aircraft for offensive missions raises more doubts. UAVs are particularly vulnerable to enemy air defences, as noted by British military authorities, who recorded severe losses of such vehicles during the 2003 air campaign.[162] Consequently, systematic future use of such aircraft for offensive missions could prompt questions, as their employment against targets located in urban areas could potentially bring about an increase in collateral damage to the civilian population due to the vulnerability of the aircraft.[163]

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[160] See P. Benvenuti, *Weapons, Uncontrolled Availability of Weapons and War Crimes*, in (2000) *CI*, 4.

[161] See the press conference of Gen. Brooks (26 March 2003).

[162] About 40 percent of the British UAVs used in operation *Iraqi Freedom* were destroyed by the enemy (*Lesson of Iraq*, *supra* note 10, at 109).

[163] Moreover, according to some sources the US air forces for the first time used non-lethal weapons able to create electromagnetic fields, which prevented the use of enemy electronic devices located near aim points (see W. Heintschel von Heinegg, *Irak-Krieg und ius in bello*, in (2003) *Archiv des Völkerrecht*, 277-278). At this stage it is difficult to evaluate the legal implications of these new weapons. On the one hand, it seems that they have several advantages, as they target enemy military objectives without causing total destruction. On the

6. Final Remarks

At the end of this comparative analysis we can highlight some elements for future reflection. First of all, it can be noted that the flexible interpretation of some fundamental concepts of international humanitarian law by some States, in particular the United States, seems to have played a role in the conduct of the air campaigns. We refer, for instance, to the use of broader parameters of reference than those commonly used by other States in the evaluation of the proportionality of an attack or the "military" nature of an object. It is clear that concepts such as the potential contribution of a target to enemy "war-sustainability" or a temporal evaluation of anticipated military advantage with reference to the entire conflict can produce excessively negative effects on the civilian population. According to these interpretations, the attacking State can probably consider lawful systematic attacks against some categories of targets, such as telecommunications system, infrastructure, electricity networks, etc., as it is not obliged to determine the existence of a concrete and direct military advantage for each single attack or coordinated actions because it is sufficient to ascertain that the attack diminishes enemy capabilities. Air operations in the "first" Gulf War seem to have followed this approach. It could be objected that a similar approach does not appear to have been followed by Coalition planners in the 2003 air campaign. However, we should remember that this air campaign was brief and that official declarations indicate an explicit desire to preserve Iraqi structures in view of the pre-planned subsequent military occupation and reconstruction of the State.

Nevertheless, a comparison between the two air operations highlights that the numerous legal grey areas regarding Coalition attacks during the "first" Gulf War influenced the conduct of subsequent air operations. It is evident that military authorities gradually modified targeting processes to introduce the necessary changes to actions that did not appear to conform to international humanitarian law standards. These changes were not related to target categories in the two Gulf conflicts, as the target list does not appear to have been modified. Instead, a number of modifications were introduced

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other hand, the lawfulness of such means of attack should be ascertained on a case-by-case basis as these weapons put all electricity devices within the range of the electromagnetic field produced out of action. It is clear that the legality of the employment of such weapons will largely depend on the potential collateral damage caused to civilian facilities. Reference could be made to the use of such weapons against command and control centres located in proximity to structures employed to the advantage of the civilian population, such as hospitals, water supplies, etc. However, official information does not confirm the use of such weapons.

in the way bombardments were carried out. This conclusion can be inferred from a comparative analysis of the methods of attack against specific categories of military objectives (electricity networks, infrastructure, etc.). Changes were also made to the means of attack (large-scale use of PGMs; technical modifications; improvements in the use of particular munitions, such as cluster bombs, etc.). Thus, some questionable choices made by Coalition air forces in 1991 seem to have facilitated a review process which has led to improvements in the conduct of air warfare as demonstrated in the course of the 2003 air operations against Iraq, in which many such errors do not seem to have been repeated. However, such improvements cannot prevent a critical evaluation being made of errors committed in 1991, especially as some of them appear to have been the result of negligence by attacking States.

Although this comparison undoubtedly allows us to affirm that air operations during the "second" Gulf War were more selective and accurate, some actions carried out in that conflict also appear to be censurable. In particular, the approach followed for so-called "time-sensitive targets" does not appear to be completely in line with obligations established by international humanitarian law. Similar reflections could probably be proposed regarding other circumstances such as the classification of *Ba'ath* facilities as military objectives *tout court*.

However, in my opinion, the overall evaluation process is too uncertain due to the lack of official information and transparency in these documents. It is difficult to ascertain the lawfulness of bombardments in cases in which attacking States justify such actions using generic references to the military nature of targeted objectives or stating the potential military use of "dual-use" objects without providing evidence to support such affirmations. For instance, vague declarations concerning the military character of targeted leadership, the military use of civilian telecommunication networks, infrastructure, government buildings, official party facilities, etc., can only be recorded by independent observers with no possibility to verify the reliability of such statements.

In some cases it seems that official authorities were aware of the political need to divulge information on bombardments so as not to create the possibility of interpretations that were equivocal or in contrast with international humanitarian law standards. This may have been the case when all references to the use of Iraqi television for propaganda purposes as a basis for attack on this target was eliminated, while justifications were limited to the potential military use of such facilities. However, in other cases, uncertainty regarding the reliability of official documents persists, as is demonstrated by information provided by the US Air Force on attacks in 2003, which states that 102 bombardments were carried out against weapons

of mass destruction. Such data is obviously difficult to accept as valid, considering that no such weapons were ever found on Iraqi soil.